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ABSTRACT

This set of training modules presents a general curriculum which addresses the theory, principles and procedures of behavior therapy modification techniques. It is meant to be used in a variety of hospitals, schools, and human development centers; thus it represents a common core of training upon which individual settings can build to provide staff training appropriate to their particular needs. The modular format presents the instructor with a complete training "package," including a comprehensive lesson plan, a programmed student handout, a quiz, a solution to the quiz, and supporting audiovisual materials. The 13 modules cover such topics in behavior modification as learning principles, measurement and evaluation, schedules of reinforcement, specific techniques, token economies, the use of punishment, and suggestions for setting up a behavior modification program. (Author/BP)

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BEHAVIOR MODIFICATION

A Curriculum for Instructors

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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Texas Department of Mental Health and Mental Retardation
Kenneth D. Gaver, M.D., Commissioner

Texas Department of Mental Health and Mental Retardation

INSTRUCTOR'S GUIDE FOR IMPLEMENTING THE DEPARTMENTAL TRAINING PROGRAM ON BEHAVIOR THERAPY MODIFICATION

Prepared by Office of Educational Services, San Antonio State Hospital

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INTRODUCTION

On December 19, 1975 the Commissioner issued Rules 302.04.07 - Behavior Therapy Modification Programs as a means of facilitating appropriate implementation and use of planned therapeutic, habilitative or educational programs using behavior modification techniques. Rule .010 of the Commissioner's Rules directs that "the Departmental Committee on Behavior Therapy Modification, assisted by representatives of Facility Committees on Behavior Therapy Modification and by Facility coordinators For Staff Development, shall develop and approve training objectives and curriculum materials for:

(1) General training of facility staff in the theory principles and procedures of Behavior Therapy Modification techniques,

(2) Specific training programs using Punishment by Contingent Stimulation."

The Rule further directs that within one year from the date referenced above, "facility Offices For Staff Development, assisted by Program Directors and Facility Behavior Therapy Modification Committees, shall provide staff training in accordance with the training objectives and curriculum developed and approved by the Departmental Committee on Behavior Therapy Modification."

Contained herein is the curriculum and delineated training objectives developed and approved by the Departmental Committee on Behavior Therapy Modification for implementation within the Department's hospitals, schools, and centers for human development. The curriculum was developed using input provided by each of the facilities and represents an effort to retain the best of each facility's recommendations regarding proposed training objectives and curriculum content. Obviously, however, the complexity and diversity of the Department's responsibilities precluded the possibility of developing a training program which precisely met all the needs of each and every facility. Rather, what has been developed by the Departmental Behavior Therapy Modification Committee is a GENERAL curriculum which addresses (1) the theory, principles and procedures of behavior therapy modification techniques and (2) punishment by contingent stimulation as required by Commissioners Rule .010. The facilities are expected to build upon this common core of approved, mandatory training, by devising training experiences for their staff which more precisely address their particular training needs in the area of behavior therapy modification. Only in this way can the precision needed to insure optional effectiveness of this valuable treatment modality be developed.

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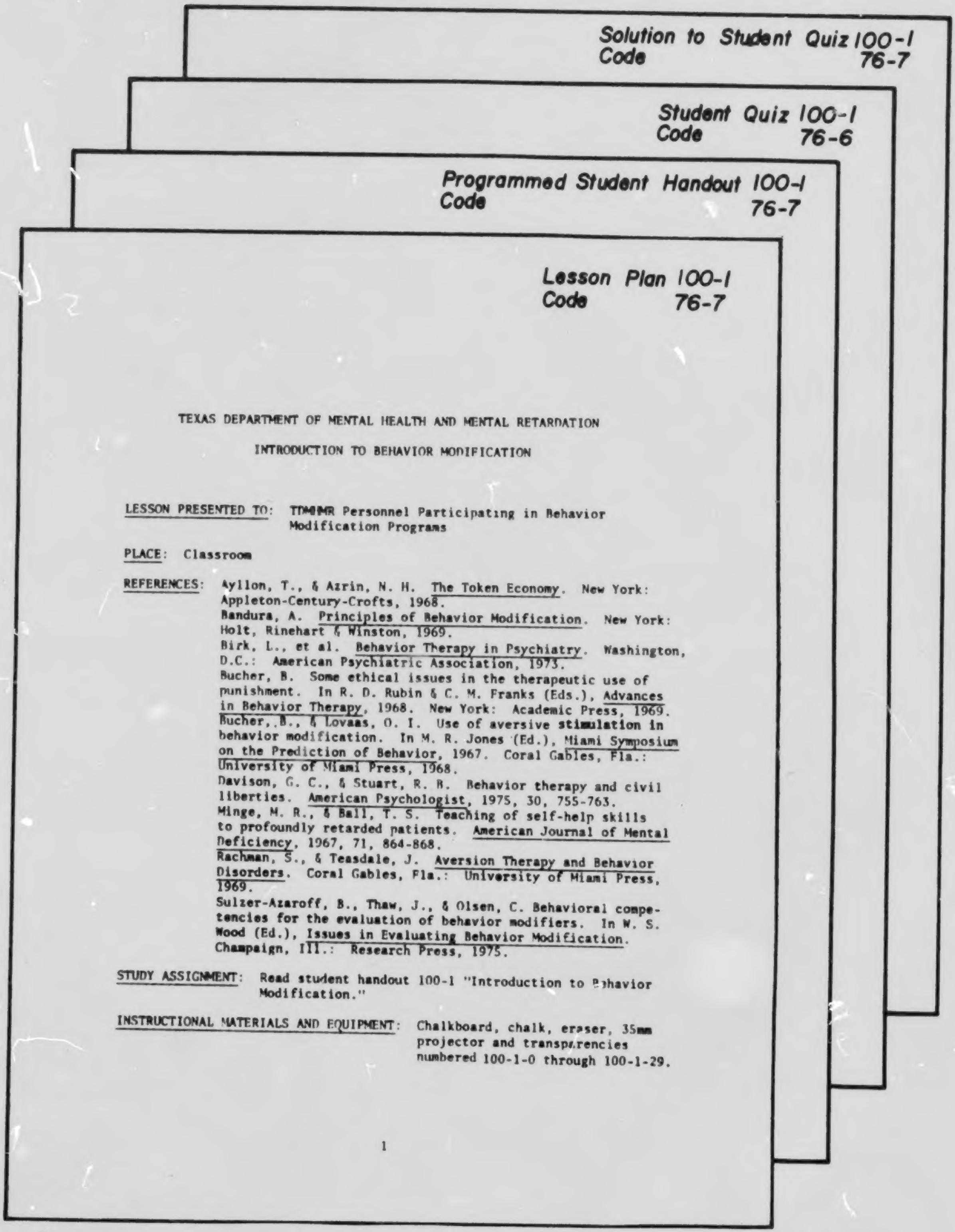
GENERAL APPROACH USED IN THE BEHAVIOR THERAPY MODIFICATION CURRICULUM

As you will see from the materials which follow, the curriculum developed by the Departmental Committee utilizes a modular approach. That is, each major subject has been developed so as to provide the instructor with a complete teaching "package". As shown in Figure 1, this "package" contains a comprehensive lesson plan, a programmed student handout, a quiz, a solution to the quiz, and supporting audiovisual materials. Everything needed by the instructor to teach the particular subject matter unit is provided in a convenient, ready-to-use module.



Solution to Student Quiz 100-1
Code 76-7

Student Quiz 100-1
Code 76-6

Programmed Student Handout 100-1
Code 76-7

Lesson Plan 100-1
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

INTRODUCTION TO BEHAVIOR MODIFICATION

LESSON PRESENTED TO: TDMHMR Personnel Participating in Behavior Modification Programs

PLACE: Classroom

REFERENCES: Ayllon, T., & Azrin, N. H. The Token Economy. New York: Appleton-Century-Crofts, 1968.
Bandura, A. Principles of Behavior Modification. New York: Holt, Rinehart & Winston, 1969.
Birk, L., et al. Behavior Therapy in Psychiatry. Washington, D.C.: American Psychiatric Association, 1973.
Bucher, B. Some ethical issues in the therapeutic use of punishment. In R. D. Rubin & C. M. Franks (Eds.), Advances in Behavior Therapy, 1968. New York: Academic Press, 1969.
Bucher, B., & Lovaas, O. I. Use of aversive stimulation in behavior modification. In M. R. Jones (Ed.), Miami Symposium on the Prediction of Behavior, 1967. Coral Gables, Fla.: University of Miami Press, 1968.
Davison, G. C., & Stuart, R. B. Behavior therapy and civil liberties. American Psychologist, 1975, 30, 755-763.
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Rachman, S., & Teasdale, J. Aversion Therapy and Behavior Disorders. Coral Gables, Fla.: University of Miami Press, 1969.
Sulzer-Azaroff, B., Thaw, J., & Olsen, C. Behavioral competencies for the evaluation of behavior modifiers. In W. S. Wood (Ed.), Issues in Evaluating Behavior Modification. Champaign, Ill.: Research Press, 1975.

STUDY ASSIGNMENT: Read student handout 100-1 "Introduction to Behavior Modification."

INSTRUCTIONAL MATERIALS AND EQUIPMENT: Chalkboard, chalk, eraser, 35mm projector and transparencies numbered 100-1-0 through 100-1-29.

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Figure 1. Components of a typical curriculum module developed for the Departmental Training Program in Behavior Therapy Modification.

In using the instructional materials which have been developed, the instructor is encouraged to:

A. Avoid the tendency to read the material provided in the lesson plan to the students. This is not true teaching and will detract from the learning process. The lesson plans are provided as a means of preparing the instructor for the role of teacher - providing him or her with the "essence" of the subject matter which must be covered during the class period. The aim in adopting the particular lesson plan format which is being used was to minimize the amount of research and class preparation which would have to be undertaken by the individual instructor. This was in recognition of the fact that (1) many individuals assigned to instructional duties carry heavy direct care responsibilities and do not have large amounts of time available to research and prepare their own lesson plans; and (2) that in many cases, personnel within facility offices for staff development services - who might not be expert in the area of behavior therapy modification - might sometimes be required to assist in the instructional program. Both categories of personnel need to have available as a resource well-prepared, comprehensive instructional modules if they are to function effectively in the role of instructor. The curricular approach adopted by the Departmental Committee meets this need by providing the instructor with a comprehensive instructional packet which is ready for use in preparing for, and presenting, required instruction concerning behavior therapy modification techniques.

B. Always issue the student handout which accompanies each instructional module before the scheduled class session and require the student to complete it prior to coming to class. The handouts are prepared in programmed instruction (self-study) format and cover the subject matter to be dealt with in class. By having the students complete the handouts prior to the scheduled class session, you can insure that they will have a basic understanding of the area you will be dealing with. This will in turn facilitate the learning process and help make the class experience more meaningful to the individual student. In this connection, extensive research reported by Ausubel and Robinson (1969) suggests that in order for a learner to master almost any given subject matter efficiently, he or she must first be exposed to certain anchoring ideas around which the new knowledge can be organized. The proposition is that unless such anchoring ideas, organizers, or advanced organizers - as they are

Ausubel, D. P. and Robinson, F. G. School Learning: An Introduction to Educational Psychology, Holt, Rinehart and Winston: New York, 1969.

variously called - are learned prior to particular subject matter assignments, learning will not be optimized. The student handout materials, when completed prior to the class session, provide the "anchoring" mechanism proposed by Ausubel and Robinson.

C. Use the audiovisual materials provided to support each instructional module. They can help you in your efforts to arouse and sustain student interest. Also, Dale's (1964) research findings suggest that the use of audiovisual materials helps the student in the process of generalizing-aiding them in applying what they have learned within the classroom setting.

D. To make your instructional program more effective, take the time - where possible - to adapt the subject matter being presented so as to make it more applicable to your particular facility. Use examples drawn from your facility's experience to illustrate applications of the principles and concepts being discussed. Set up role playing experiences to involve the students in application of the information presented to them in the class sessions; and, where possible, integrate the classroom experiences with structured on-the-job experiences as a means of imparting maximum realism and relavancy to the teaching-learning process. Do not attempt to let the lesson plan provided as part of the Departmental Curriculum package carry the entire instructional load. Adapt it to your particular facility; enrich it with experiences drawn from your background; and make it more relevant to the unique needs which may exist at your facility.

Dale, E. "Principles of Learning", The News Letter 29, No. 4 (January, 1964); Bureau of Educational Research and Service, Ohio State University, Columbus.

CONTENTS OF THE DEPARTMENTAL BEHAVIOR THERAPY MODIFICATION CURRICULUM

The Departmental Behavior Therapy Modification Curriculum contains the following modules or instructional units:

Module Number	Title
100-1	Introduction To Behavior Modification
100-2	Principles of Learning In Behavior Modification
100-3	Measurement and Evaluation In Behavior Modification
100-4	Concepts and Schedules of Reinforcement In Behavior Modification
100-5	Specific Techniques and Procedures In Behavior Modification
100-6	The Token Economy In Behavior Modification
100-7	Application of Behavior Modification Procedures To Specific Behaviors (a) Developing Self-help Skills (Videotape) (b) Developing Academic Skills (Videotape) (c) Developing Social-Recreational Skills (Videotape) (d) Developing Conversation Language Skills (Videotape) (e) Developing Vocational Skills (Videotape) (f) Dealing With Inappropriate Behavior (Videotape)
100-8	The Use Of Punishment Techniques In The Institutional Setting

APPENDIX A TO
INSTRUCTOR'S GUIDE

GLOSSARY OF TERMS USED
IN THE DEPARTMENTAL CURRICULUM

Alternate response training - a self-control technique in which the client is trained to engage in a response (e.g., relaxation) which interfers with or replaces another response which is to be controlled or eliminated.

Avoidance - performance of a behavior which serves to postpone or avert the presentation of an aversive (unpleasant) event.

Back-up reinforcer - an object, activity, or event that can be purchased with tokens; reinforcers which "back-up" the value of the tokens.

Behavior - any observable and measurable response or act of a client.

Behavior control - exerting power or influence over others by altering the environmental contingencies in a manner designed to achieve a definite end.

Charging - procedure in which previously earned reinforcers are taken away as punishment for undesirable behavior.

Classical conditioning - a type of learning in which a neutral (conditioned) stimulus is paired with an unconditioned stimulus which automatically elicits a reflex response. After repeatedly following the conditioned stimulus with the unconditioned stimulus, the conditioned stimulus alone will come to elicit a reflex response. In classical conditioning, new stimuli gain the power to elicit respondent behavior.

Conditioned reinforcer - an event which becomes reinforcing through learning. An event becomes a conditioned reinforcer by being paired with other events (primary or conditioned) which already reinforcing have reinforcing properties.

Conditioned response - reflex behavior elicited by a conditioned stimulus alone in the absence of the unconditioned stimulus; it resembles an unconditioned response.

Conditioned stimulus - a previously neutral stimulus which through repeated association with an unconditioned stimulus comes to elicit a reflex response.

Contingency - the relationship between a behavior (or response to be changed) and the events (or consequences) which follow behavior.

Contingency contracting - developing a behavior modification program with a client in which an agreement or contract specifies the consequences and criterion levels of behavior. Usually a contract is signed by both the agent who desires behavior change (e.g., parent, teacher, wife), and the individual whose behavior is to be changed (e.g., child, student, husband).

Contingent reinforcement - the delivery of a reinforcer only when a specified client behavior has been performed.

Continuous reinforcement - a reinforcement schedule in which a response is reinforced each time it is performed.

Covert conditioning - therapy technique based upon the principles of learning in which a client imagines various events instead of overtly participating in them.

Covert events - a private event such as a thought, fantasy, or image.

Covert modeling - a covert conditioning technique in which a client "imagines" a model performing various behaviors rather than actually observing a model performing them.

Differential reinforcement - circumstance in which a person is reinforced when a desired behavior occurs and is not reinforced when the behavior does not occur.

Discrimination - responding differentially in the presence of different cues or antecedent events. Control of behavior by a discriminative stimulus.

Discrimination learning - learning to respond differentially to two or more similar stimuli.

Discriminative stimulus (S^D) - an antecedent event or stimulus which signals that a certain response will be reinforced. That is, a response is reinforced in the presence of an S^D. After an event becomes an S^D by being paired with reinforcement, its presence can increase the probability that the response will occur.

Elicit - to automatically bring about a response. Respondent or reflex behaviors are elicited by unconditioned stimuli.

Emit - to perform a response spontaneously. An emitted response is not automatically controlled by stimuli which precede it. Operant behaviors are emitted. That is, they are controlled by the consequences which follow them.

Escape - performance of a behavior which terminates an aversive event or leaving the field in order to avoid contingent consequences.

Extinction - gradual disappearance of a conditioned response when it is no longer reinforced.

Fading - procedure in which prompts or cues are faded out or gradually eliminated as they become unnecessary in establishing a desired behavior.

Frequency count - a procedure in which one records every time a behavior occurs. Then all the occurrences are added up and divided by the amount of time the behavior was observed. This gives the rate. Or,

$$\text{rate} = \frac{\text{count of behavior}}{\text{time observed}}$$

Generalization - tendency for a response that has been conditioned to a particular stimulus to become associated with other similar stimuli.

Generalized reinforcer - a reinforcer, such as food or money, which may influence a wide range of behaviors.

High probability behavior - a response which is performed with a relatively high frequency when the individual can freely select an activity.

Individualized reinforcer - events or things which will reinforce a particular person, but might not reinforce other people.

Instrumental (operant) conditioning - type of conditioning in which the subject is reinforced for making a predetermined response, such as pressing a bar to obtain a food reward.

Intermittent reinforcement - Reinforcement schedule in which a response is not reinforced every time it is performed; only some occurrences of the response are reinforced.

Law of effect - Thorndikian principle that responses which have rewarding consequences are strengthened and those that have aversive consequences are weakened or eliminated.

Learning - process whereby behavior is modified as a consequence of experience.

Maladaptive behavior - behavior which is detrimental to the well-being of the individual or the group.

Modeling - learning by observing another individual (a model) engage in a behavior. The observer need not perform the behavior nor receive direct consequences for his performance.

Natural Reinforcer - reinforcer which occurs in one's natural environment such as access to special events and extra bedtime; as opposed to reinforcers which are external to one's natural environment such as prizes used on a daily basis in a classroom.

Negative reinforcer - termination of an aversive event which functions to increase the frequency of the preceding response. The increase in frequency of the response which terminates or removes the negative reinforcer is called negative reinforcement.

Noncontingent reinforcement - the delivery of a reinforcer independently of behavior; the reinforcer is delivered without reference to how the client is behaving.

Operant behavior - behavior that is controlled by its consequences; emitted behavior.

Operant conditioning - a type of learning in which behaviors are altered primarily by regulating the consequences which follow them. The frequency of operant behaviors is altered by the consequences which they produce.

Positive reinforcer - an event which increases the probability of a response it follows.

Premack principle - a principle that states that of any pair of responses or activities in which an individual engages, the more frequent one will reinforce the less frequent one.

Primary reinforcer - a reinforcing event which does not depend on learning to achieve its reinforcing properties (e.g., food, water, and sex).

Prompting - Behavioral technique in which one shows a client how to do or say something.

Punishment - the presentation of an aversive event or the removal of a positive event following behavior which decreases the frequency of that behavior.

Reinforcement - an increase in the frequency of a response when the response is followed by a particular event; the event can be either the presentation of a positive reinforcer or removal of an aversive stimulus.

Respondent - behavior that is elicited or automatically controlled by antecedent stimuli; reflexes are respondents because their performance automatically follows certain stimuli.

Response cost - a punishment procedure in which a positive reinforcer is lost contingent upon behavior. Unlike time-out, there is no specified time limit to the withdrawal of the reinforcer. Fines are examples of response cost.

Self-control - refers to those behaviors a client deliberately undertakes to achieve self-selected outcomes.

Self-instruction - a self-control technique in which an individual prompts his own behavior by providing covert self-instruction or statements which direct and guide performance.

Self-observation - assessing or recording one's own behavior.

Self-punishment - providing oneself with punishing consequences contingent upon behavior.

Self-reinforcement - providing oneself with reinforcing consequences contingent upon behavior; to qualify as self-reinforcement, the client must be free to partake of the reinforcer at any time whether or not a particular response is performed.

Shaping - developing a new behavior by reinforcing small steps or successive approximations which approach the terminal response.

Spontaneous recovery - the reoccurrence of a behavior that has been eliminated by extinction - even though the response has not been reinforced, it may suddenly reappear during the course of extinction - the magnitude of a response which temporarily recovers spontaneously is usually lower than its magnitude prior to extinction.

Stimulus - a measurable event that may affect behavior.

Stimulus control - the presence of a particular stimulus serves as a cue for a particular response. A response is performed in the presence of a particular stimulus but not in its absence.

Stimulus generalization - spread of a conditioned response to a stimulus which is similar to, but not identical with, the conditioned stimulus.

Time-interval count - a procedure in which you record whether or not a particular behavior occurred during a specified interval. The number of observations are then totaled and divided by the number of intervals to get the rate. Or,

$$\text{Rate} = \frac{\text{Number of intervals in which behavior occurs}}{\text{Total number of intervals observed}}$$

Time-out from reinforcement - a punishment procedure in which access to positive reinforcement is withdrawn for a given period of time; isolation from a group exemplifies time-out from reinforcement.

Token - a tangible object which serves as conditioned reinforcer. It can be exchanged for back-up reinforcers from which it derives its value. Poker chips, coins, checkmarks, tickets, punches on cards, stars, and points are commonly used as tokens.

Token economy - a reinforcement system where tokens are earned for a variety of behaviors to purchase a variety of back-up reinforcers. A token economy represents a system similar to a natural economy where money serves as a medium of exchange and can be earned and spent in a variety of ways.

Unconditioned response - a reflex response elicited by an unconditioned stimulus.

Unconditioned stimulus - a stimulus which elicits a reflex response; the response is automatically evoked by the unconditioned stimulus.

Lesson Plan 100-1
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

INTRODUCTION TO BEHAVIOR MODIFICATION

LESSON PRESENTED TO: TDMHMR Personnel Participating in Behavior Modification Programs

PLACE: Classroom

REFERENCES:

Ayllon, T., & Azrin, N. H. *The Token Economy*. New York: Appleton-Century-Crofts, 1968.

Bandura, A. *Principles of Behavior Modification*. New York: Holt, Rinehart & Winston, 1969.

Birk, L., et al. *Behavior Therapy in Psychiatry*. Washington, D.C.: American Psychiatric Association, 1973.

Bucher, B. Some ethical issues in the therapeutic use of punishment. In R. D. Rubin & C. M. Franks (Eds.), *Advances in Behavior Therapy*, 1968. New York: Academic Press, 1969.

Bucher, B., & Lovaas, O. I. Use of aversive stimulation in behavior modification. In M. R. Jones (Ed.), *Miami Symposium on the Prediction of Behavior*, 1967. Coral Gables, Fla.: University of Miami Press, 1968.

Davison, G. C., & Stuart, R. B. Behavior therapy and civil liberties. *American Psychologist*, 1975, 30, 755-763.

Minge, M. R., & Ball, T. S. Teaching of self-help skills to profoundly retarded patients. *American Journal of Mental Deficiency*, 1967, 71, 864-868.

Rachman, S., & Teasdale, J. *Aversion Therapy and Behavior Disorders*. Coral Gables, Fla.: University of Miami Press, 1969.

Sulzer-Azaroff, B., Thaw, J., & Olsen, C. Behavioral competencies for the evaluation of behavior modifiers. In W. S. Wood (Ed.), *Issues in Evaluating Behavior Modification*. Champaign, Ill.: Research Press, 1975.

STUDY ASSIGNMENT: Read student handout 100-1 "Introduction to Behavior Modification."

INSTRUCTIONAL MATERIALS AND EQUIPMENT: Chalkboard, chalk, eraser, 35mm projector and transparencies numbered 100-1-0 through 100-1-29.

TYPE OF INSTRUCTION: Lecture and Group Discussion

I. INTRODUCTION

A. Opening Statement

Note; Display Transparency 100-1-0.

As we will discover during our discussions this instructional period, behavior modification is neither something new nor sinister, as popular press accounts would have us believe. Basically, behavior modification is little more than the systematic application of learning principles to actual, everyday problems - such as alleviating human suffering and enhancing human functioning. The basic assumption is that a person's behavior is influenced by the consequence of the behavior. Knowing this - and other learning principles - we can come to understand and change behavior in a desired direction. We can, with reasonable ease:

- Strengthen and maintain behaviors that are appropriate
- Weaken and eliminate behaviors that are inappropriate
- Teach and shape new behaviors which did not previously exist in an individual's behavioral repertoire.

Of course, you will not gain the ability to do all these things by participating in just this class session. It will require many hours for you to develop the knowledge and skills needed to perform effectively as a "behavior modifier." Our aim during this first class period is to provide you with an overview of the method, its origins, and applications.

B. Instructional Objectives

Upon completion of this instructional unit, the student will be able to:

1. Operationally define behavior modification and contrast the method with related concepts of behavior influence and behavior therapy.
2. Specify the general principles of learning upon which behavior modification procedures are based.
3. List five features which are common to the "family" of behavior modification techniques discussed during the class session.
4. List four instances in which positive reinforcement would be appropriate for use in a behavior modification program.

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5. List four instances in which negative reinforcement (aversive control) would be appropriate for use in a behavior modification program.

6. List three major factors which are necessary ethical safeguards in a behavior modification program.

II. PRESENTATION

A. Behavior Modification Is Not New

Note: Display Transparency 100-1-1.

1. Throughout recorded history, people have sought to control their environment and discover ways of teachnig themselves and their children new skills and capabilities.

Note: Display Transparency 100-1-2.

2. Practical notions concerning the ways in which reward and punishment can influence behavior have existed for countless centuries.

Note: Display Transparency 100-1-3.

3. What we know as behavior modification was used long before behavioral scientists even started developing systematic principles of learning.

B. What Is Behavior Modification?

1. It is helpful, in understanding behavior modification, to clarify its relationship to a broader concept - behavior influence.

Note: Display Transparency 100-1-4.

2. Behavior influence describes a situation in which one person exerts some degree of control over another such as in:

   a. Formal Education

   b. Advertising

   c. Child Rearing

   d. Political Campaigning

3. In contrast, behavior modification - though a form of behavior influence - involves primarily the application

of learning principles derived from research in experimental psychology to:

a. Enhance human functioning, such as helping a retarded child acquire toileting skills, or

b. Alleviate human suffering, such as preventing an individual from engaging in self-destructive behavior.

4. The techniques of behavior modification are generally directed towards developing improved self-control by expanding an individual's skills, abilities, and independence.

Note: Display Transparency 100-1-5.

5. In general, most behavior modification procedures are based on the proven principle that people are influenced by the consequences of their behavior.

6. The behaviorally oriented mental health worker limits the conceptualization of a client's problem to observable behavior and its environmental context.

C. How About Behavior Therapy?

1. At times, the term behavior therapy is used synonymously with the term behavior modification.

Note: Display Transparency 100-1-6.

2. Generally, behavior modification is considered to be broader in meaning, while behavior therapy mainly refers to clinical interventions, usually on a one-to-one relationship.

Note: Display Transparency 100-1-7.

3. Within TDMHMR, the term behavior therapy modification is used instead. The departmental definition is:

"Behavior Therapy Modification means the control of selected behaviors through the consistent and systematic manipulation of both antecedent and consequent stimuli."

C. Further Discussion of Behavior Modification

1. An important feature of behavior modification relates to its attempts to influence behavior by changing the environment and the way people interact - instead of

intervening directly with medical procedures, such as with drugs. Of interest is the fact that the effects of behavior modification are relatively changeable and impermanent.

Note: Display Transparency 100-1-8.

2. Behavior modification techniques are useful in a wide variety of situations, including:

   a. Child rearing by parents

   b. Instructional activities of teachers

   c. Therapeutic efforts of mental health workers.

3. Effective behavior modification requires that the problem behavior be clearly specified. Thus, the mental health worker must be able to define objectively the response that is to be learned or reduced.

D. Isn't Behavior Modification Just Common Sense?

1. Many of those who learn about the general procedures of behavior modification get the feeling that it is all "just a matter of common sense." To a degree this is true.

Note: Display Transparency 100-1-9.

   a. Parents use behavior modification techniques when they praise their children for good behavior - hoping to encourage its perpetuation.

   Note: Display Transparency 100-1-10.

   b. Employers make extensive use of promotions and incentive awards to encourage good job performance.

   Note: Display Transparency 100-1-11.

   c. Our body of laws, which specifies fines and penalties for infractions, is clearly intended to modify behavior.

2. What makes behavior modification more than just common sense is its scientific basis.

   a. The principles of behavior modification operate to codify and organize the common sense aspect of the approach.

b. The scientific organization of behavior modification procedures specify under what conditions and in what circumstances each aspect of the "common sense" component should be applied.

E. What Behavior Modification Is Not.

Note: Display Transparency 100-1-12.

1. Behavior modification does not include psychosurgery, electroconvulsive therapy, and the noncontingent administration of drugs. (By noncontingent, we refer to the administration of drugs independent of any specific behavior on the part of the person receiving the medication).

2. The procedures discussed above are excluded, even though they may effectively modify behavior. This is because they do not "fit" the definition we have been developing. That is, behavior modification refers only to those procedures.

   a. which are based on the explicit and systematic application of principles and technology derived from research in experimental psychology,

   b. and which involve some change in the social or environmental context of a person's behavior.

F. Behavior Modification As Currently Practiced

Note: Display Transparency 100-1-13.

1. Behavior modification involves a family of techniques which - while diverse - have the common goal of enhancing clients' lives by altering specific aspects of their behavior.

2. In the ideal situation, the behavior modifier or the mental health worker and the client decide together on a mutually agreeable set of treatment goals and on the means for obtaining these goals. This may take the form of a contract in some cases:

Note: Display Transparency 100-1-14.

   a. When the clients are adults, such a contract is made between them and the mental health worker.

   b. When the clients are mentally disadvantaged, such as the retarded, senile or psychotic, the contract is sometimes made between the client's guardians or other responsible persons.

c. When the clients are children, they are generally consulted by the mental health worker and encouraged to enter into a contractual agreement.

d. Within institutional settings such as a state hospital or state school, the contractual route is not always feasible for various reasons.

3. Regardless of setting - school, institution or outpatient clinic - the client or his representative should be kept fully informed concerning the results of treatment as it progresses and encouraged to participate in any modification of goals or techniques.

G. The General Approach Used In Behavior Modification

Note: Display Transparency 100-1-15.

1. The initial step in any behavior modification procedure involves analysis of the client's behavior which is functioning to cause distress or to interfere with the client's optimal functioning in familial, social, vocational, or other important areas.
2. The description should, to the extent possible, be based on observations of the client in the situation where the distress is apparent.
3. The observation may involve careful quantitative records or statements about the relative frequency of various behaviors.
4. Required observations may be made by the mental health worker, an assistant, a parent, the client - in some cases - or one of the client's peers if appropriate.
    a. A parent could be trained to talley the number of times a client stutters.
    b. A teacher might keep a record of an emotionally disturbed child's aggressive outbursts, and,
    c. A well trained and motivated individual could count the frequency of the occurrence of an unacceptable habit such as engaging in ritualistic behavior.

Note: Display Transparency 100-1-16.

5. In addition to obtaining detailed descriptions of what the client does and does not do, the mental health worker should attempt to determine the circumstances under which the behavior seems to occur and the environmental consequences that are operating to maintain it.

6. To review briefly, behavior modification can be said to involve the systematic variation of behavioral and environmental factors associated with a client's behavioral difficulties, with the primary goal of modifying his or her behavior in the direction that the client (or his or her agent) has chosen.

H. What Happens After the Client Returns to a Non-treatment Setting?

Note: Display Transparency 100-1-17.

1. The goal of all treatment - and this includes behavior modification - is maintenance of the improvement which has been gained after the therapy is terminated.

2. Maintenance of improvement is enhanced when the behavior modification program includes:

   a. Specification of the environment in which the client normally lives and

   b. A provision for establishing and strengthening behavior which is desired, or is useful in the client's "normal" environment.

3. Generalization to the "normal" environment is aided by having the behavior modification program provide for a planned transition between the therapeutic situation and the client's "living" environment.

I. Common Positive Reinforcement Behavior Modification Methods

1. The Concept of Positive Reinforcement

Note: Display Transparency 100-1-18.

   a. Positive reinforcement is a technical term used in behavior modification which is roughly synonymous with reward.

   b. A positive reinforcer is defined as any event following a given response that increases the chances of that response occurring again.

Note: Display Transparency 100-1-19.

   c. Typical positive reinforcers include tangible items such as money or food, social events such as praise or attention, and activities, such as being able to engage in recreation or to watch television or listen to the radio.

d. With regard to positive reinforcement, however, you must remember that what is reinforcing (or motivating) for some individuals is not necessarily reinforcing for others.

e. When using behavior modification procedures with any individual, the mental health worker must determine what particular items and activities will reinforce that particular person's behavior at that particular time.

2. Methods Using Positive Reinforcement from the Major Class of Methods Among Behavior Modification Techniques

Note: Display Transparency 100-1-20.

a. Generally, positive reinforcement is used to develop and maintain new behavior.

b. Generally, the removal of positive reinforcement is used to decrease the frequency of undesired behavior.

c. Positive reinforcement has been used successfully in teaching social behavior, in improving classroom and dormitory management, in motivating better and faster learning of academic materials, and in teaching all kinds of new skills such as toileting, dressing, feeding and the like.

d. While some positive reinforcers are much more effective if a person has been temporarily deprived of them, others continue to be reinforcing regardless of how often an individual is exposed to them.

3. The Token Economy - A Positive Reinforcement Group Management Procedure

Note: Display Transparency 100-1-21.

a. The token economy is basically a work-payment incentive system.

b. In the token economy, the participants receive tokens when they engage in appropriate behavior. Later, they exchange the tokens for a variety of positively reinforcing items and activities.

c. The token economy is particularly appropriate for use with institutionalized individuals, as a means of strengthening behavior which is compatible with that which is needed when the individual is restored to life within the community - such as regular job performance, self-care, maintenance of one's living quarters, and money management.

d. A particular advantage of the token economy method is that non-professional personnel are typically the therapeutic agents of change, of course under appropriate supervision.

4. Shaping as a Positive Reinforcement Behavior Modification Technique

Note: Display Transparency 100-1-22.

a. In shaping, a desired behavior is broken down into successive steps that are taught one-by-one.

b. Each step is reinforced until it is mastered, after which the individual moves on to the next step.

c. In shaping, the new behavior is learned gradually as the individual comes closer and closer to an approximation of the behavioral goal.

5. Modeling as a Positive Reinforcement Behavior Modification Technique

Note: Display Transparency 100-1-23.

a. In Modeling, an individual who already knows how to engage in some desired behavior demonstrates the behavior for the person who is learning.

b. To illustrate, if an individual was learning socially appropriate ways to greet members of the opposite sex, another person - the model - would demonstrate the appropriate behavior which, if replicated appropriately by the learner, would be reinforced.

J. Common Negative Reinforcement (Aversive Control) Behavior Modification Methods

Note: Display Transparency 100-1-24.

1. General Considerations

a. In aversive behavior modification methods, an aversive stimulus (something unpleasant to an individual) is used to help the person reduce the tendency to engage in an inappropriate behavior.

b. Aversive control techniques have been used successfully to deal with such inappropriate behavior, such as self-mutilation, addictions, and certain sexual behaviors.

c. In the aversive control technique, the individual can avoid the aversive stimulus as long as he or she does not engage in the undesirable behavior.

d. When aversive therapy is used, it should be accompanied by positive reinforcement of normal behavior.

2. Commonly Used Aversive Behavior Modification Methods

a. Electric Shock

(1) Perhaps the most commonly used aversive stimulus in behavior modification is brief, low-level electric shock.

Note: Display Transparency 100-1-25.

(2) Low-level electric shock has been shown to be effective in ameliorating severe behavioral problems such as self-injurious behavior.

(3) The low-level electric shock used causes no lingering pain or tissue damage and can be precisely controlled.

b. Time-Out

(1) Removal of positive reinforcement (such as privileges) following performance of a given undesirable behavior is considered to be aversive.

Note: Display Transparency 100-1-26.

(2) A common technique involves the time-out procedure, in which inappropriate behavior is followed by a brief period of social isolation.

(3) When used for reducing hyperactive, rebellious, and disruptive behavior, time-out should be combined with a variety of positive reinforcing procedures for appropriate behavior.

c. Fines

(1) Fines constitute another form of aversive control.

Note: Display Transparency 100-1-27.

(2) In fining, the individual is required to give up some positive reinforcement (such as a given number of tokens, television viewing time, etc.) following performance of an inappropriate behavior.

d. Research Findings on Aversive Therapy

(1) The effects of aversive therapy seem to be restricted to the particular behavior that is associated with the particular aversive stimulus, in that particular situation, with that particular "behavior modifier". The effects of aversive stimuli do not generalize very much.

(2) Although the effects of aversive stimuli may be only temporary in some cases, there will be a period of time where the undesirable behavior is not performed. During this time, research findings suggest that the individual is more amenable to learning new, appropriate responses.

(3) Research findings also suggest that the most effective way to eliminate inappropriate behavior is to follow it with aversive stimuli, while at the same time positively reinforcing desired behavior.

e. Overcorrection as a Behavior Modification Method Combining Positive Reinforcement and Aversive Therapy

(1) The method of overcorrection combines positive reinforcement and aversive control, usually to discourage inappropriate or disruptive behavior.

(2) In overcorrection, the individual who has engaged in the inappropriate behavior not only remedies the situation he has caused, but also "overcorrects" it by restoring the disrupted situation to a better state than existed before the disruption.

Note: Display Transparency 100-1-28.

Example: A resident overturns a bed in a dormitory. After the incident, he is required not only to "right" the bed and make it up again, but to also straighten the bedding on all the other beds in the dormitory. In this example, making up the overturned bed corrects the situation that the behavior disrupted; straightening up the other beds provides the "overcorrection.

(3) Many times an inappropriate or disruptive behavior will function to provide some sort of reinforcement. For example, turning over a bed might get a patient attention and concern from the staff - which he wanted and which was reinforcing. Requiring him to "overcorrect" terminates any reinforcement which might be associated with the inappropriate behavior.

(4) Overcorrection is classified as an aversive stimulus, because it requires effort to complete the overcorrection and because the individual is unable to engage in other more desirable behavior while he completes the correction task.

(5) Overcorrection has been shown to be particularly effective in eliminating aggressive and disruptive behavior in institutionalized patients. It has a particular advantage over other methods used to deal with such behavioral problems, in that severe aversive stimuli need not be involved in overcorrection.

K. Critical Issues In Behavior Modification

1. Increasing concern has been expressed over the ethical and legal aspects of behavior modification. These concerns involve such considerations as:

   a. Fear that it will lead to "mind control."

   b. The fact that it is used most often to alter the behavior of persons who are involuntary participants - who are powerless because of institutionalization.

2. As B. F. Skinner has pointed out, like any technology, behavior modification can be used ineptly or for immoral ends. However, it is "ethically neutral. It can be used by villain or saint. There is nothing in a methodology which determines the values governing its use."

3. A more sensible approach is to view behavior modification as a procedure which involves altering the nature of the controlling conditions, rather than imposing control where none existed before.

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4. Common sense tells us that behavior modification is not a one-way method that can be successfully imposed on an unwilling participant. The method can succeed only when the individual receiving the consequences is responsive to them and cooperates with the program.

5. One needs to remember that the behavior modification process is usually a reciprocal one. That is, the "behavior modifier" attempts to shape the behavior of some other person by changing the consequences of that person's behavior. However, at the same time, the "behavior modifier's" behavior is in turn shaped by the other person's response. The client can make use of his own understanding and control of himself and his environment to resist, or even counterinfluence, the behavior of the "behavior modifier."

6. While concern over behavior modification techniques is warranted, emotionalism should not supplant reason. As generally practiced, the goal of behavior modification is not to force people to conform or behave in some mindless way. Instead, the goals developed for the approach focus on providing (1) new skills and individualized options and (2) developing creativity and spontaneity.

7. Few would deny that there is a need for ethical safeguards for behavior modification programs. As a minimum, these safeguards should include these factors:

Note: Display Transparency 100-1-29.

a. Client involvement

b. A balance of risk and benefit

c. Appropriate review by outside persons

d. Efficacy of the proposed procedures

e. Plans for accountability of the program.

Guidelines provided in the Commissioner's Rules 302.04.07 "Behavior Modification Programs" require consideration of these ethical safeguards.

III. Summary

During our discussion, we noted that many years of careful laboratory research have gone into development of the basis or rationale for

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behavior modification techniques. We also saw that the behavior modification methods currently being used include procedures suitable for use in the school, clinic, and in the mental institution. The procedures we discussed can be used with normal adults and children and with the mentally disadvantaged, including the retarded, the senile, and the psychotic. We saw that behavior modification methods have been used to ameliorate a wide range of problems including mutism, self-destructive behavior, and inappropriate fears. Also, behavior modification methods have been used to teach a great variety of appropriate, normal behaviors to institutionalized clients, including normal speech, appropriate social behavior, and suitable classroom skills.

Of particular interest was the concern that has been expressed that behavior modification methods may be used by those in power to control and manipulate others. We noted that all kinds of therapies involve attempts to change the patient in some way and that behavior modification, like other therapeutic methods, requires a cooperative individual for it to be effective in changing behavior.

In our discussion, we noted that aversive procedures, easy to abuse, have also raised serious concerns. It is important to keep in mind that these methods can, however, be used to benefit patients greatly, as when aversive techniques are used to eliminate life-threatening, self-destructive behavior. We closed our discussion by noting that the guidelines provided in Commissioner's Rules 302.04.07 "Behavior Modification Programs " if diligently observed - will provide the safeguards needed to prevent abuse of behavior modification as a valuable treatment strategy in helping restore the client to a productive life in society.

Programmed Student Handout 100-1
Code 76-7

Texas Department of Mental Health Mental Retardation

Introduction to Behavior Modification

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame."
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

1. This handout deals with the area of BEHAVIOR MODIFICATION. Behavior modification is a treatment method used in both the state hospitals and the state schools.	
What subject is covered in this programmed student handout? ____________________	Behavior Modification
Where is the treatment method known as behavior modification used? ____________________	in the state hospitals and state schools
2. In addition to being used in the state hospitals and state schools, the behavior modification method is used in a lot of other situations, such as in the public schools and by mental health workers in private practice.	
We said that behavior modification was used in the state hospitals and state schools. Where else is it used? ____________________	in public schools and by mental health workers in private practice
3. So much for who uses behavior modification. What is it? Behavior modification is not something mysterious. Basically, it is just the SYSTEMATIC application of learning principles to change a person's behavior in a desired direction. BEHAVIOR MODIFICATION SYSTEMATIC APPLICATION OF BASIC LEARNING PRINCIPLES	

Behavior modification is the _______________ application of _______________ principles to change behavior in a desired direction.

Systematic
Learning

4. The basic idea in the behavior modification method is that behavior is influenced by its CONSEQUENCES. By consequences, we mean what happens after a behavior occurs. For example, if you speed and get fined, you will probably be careful about speeding in the future. If you get complimented by your boss for your good appearance and hard work, you will probably continue to show these behaviors in the future.

The basic idea in behavior modification is that behavior is influenced by its _______________.

Consequences

The consequences of behavior refers to what happens after a _______________ occurs.

Behavior

5. We know that behavior is influenced by its consequences. This is one of the basic learning principles on which the behavior modification method is based. We will talk about others later. Knowing them - and systematically putting them to work - will let us:

   a. Strengthen and maintain behaviors that are APPROPRIATE,

   b. Weaken and eliminate behaviors that are INAPPROPRIATE.

   c. Develop NEW behaviors that did not previously exist.

The key to doing these things is to SYSTEMATICALLY use the learning principles we will be studying. Systematically using them means making sure that they are used in a consistent, orderly way. They will not work if you try to use them on a "hit or miss" basis.

To be systematic is to be _______________ and _______________.

Consistent
Orderly

6. List three things concerning behavior that we can accomplish by systematically applying basic learning principles. a. ______________________ b. ______________________ c. ______________________	strengthen and maintain appropriate behavior. weaken and eliminate inappropriate behaviors. develop new behaviors.
7. Throughout recorded history, people have used the consequences of behavior (in terms of reward and punishment) to influence behavior. For example, if a child is systematically praised for using "good" table manners, he is apt to continue to do so. If a child is systematically punished for stealing something he wants, he is not apt to continue stealing. Practical notions concerning the ways in which reward and punishment - as ______________ of behavior - can influence behavior have existed throughout recorded history.	Consequences
8. Behavior modification is related to another important idea we will be talking about. This idea is called BEHAVIOR INFLUENCE. This is when one person is able to have some degree of control over the behavior of another person. We see this in the classroom, in advertising, in raising children, and in political campaigns. In all of these, we can see that the teacher, the advertiser, the parent, and the politician try to INFLUENCE someone else's behavior. When one person is able to have some degree of control over the behavior of another person, he is said to be using behavior ______________.	Influence
9. Behavior modification is related to behavior influence. However, they are not the same. As we said earlier, behavior modification is the systematic application of basic learning principles. With it, you try to: a. Improve behavior, such as helping a retarded child to become able to dress himself; and	

b. Lessen human suffering, such as helping prevent a mentally ill person from harming himself by banging his head or tearing at his face.

Behavior modification is not the same as behavior ______________.

Influence

In behavior modification you are usually trying to improve ______________ or lessen human ______________.

Behavior
Suffering

10. At the heart of it, behavior modification methods are attempts to develop or improve a person's self-control by helping the person grow in terms of his skills, abilities, and independence.

Behavior modification methods are basically attempts to develop or improve a person's ______________.

Self-Control

The improved self-control comes about by using behavior modification methods to help the person improve his ______________, ______________, and ______________.

Skills
Abilities
Independence

11. As we said earlier, an important behavior modification principle is that people are influenced by the consequences of their behavior. Another important principle is that you are concerned primarily with OBSERVABLE behavior and the PHYSICAL environment in which the behavior occurs.

In behavior modification, you must concern yourself with ______________ behavior and the ______________ environment in which the behavior occurs.

Observable
Physical

12. The Texas Department of Mental Health and Mental Retardation uses the term behavior therapy modification to refer to behavior modification procedures. The department's definition is:

"Behavior Therapy Modification means the control of selected behaviors through the consistent and systematic manipulation of both antecedent and consequent stimuli."

What does this mean? It simply means that we can change a person's behavior if we manipulate (or manage) stimuli which precede and/or follow the behavior we are interested in.

Consider the following definitions of terms used in the department's definitions. You will need to learn what they mean.

a. Manipulation - the act of managing or controlling in a skillful way.

Example: To help a retarded child learn to dress himself, you must manipulate (skillfully control or manage) the reward that he is given for showing proper behavior.

b. Stimuli - anything that causes or changes an activity or behavior.

Example: Stimuli are "happenings" or events which serve to arouse, sustain, or direct behavior. They could be spoken words, such as "put on your sock", a pat on the head, or a gum drop for doing something asked, such as a child correctly pointing to the nose when asked "Show me your nose."

c. Antecedent - that which goes before; prior to or preceding.

Example: A direct care worker screams at a patient to "Get his _____ back in his room!" in front of other patients. The patient screamed at reacts violently and has to be subdued. The worker's words are ANTECEDENT stimuli which served to bring about the patient's violent behavior.

d. Consequent - following as a result; resulting from.

Example: A patient engages in self-destructive behavior, by gouging at his eyes. Every time he does so, he is given a mild electric shock. Administration of the mild electric shock is a consequence of his self-destructive behavior.

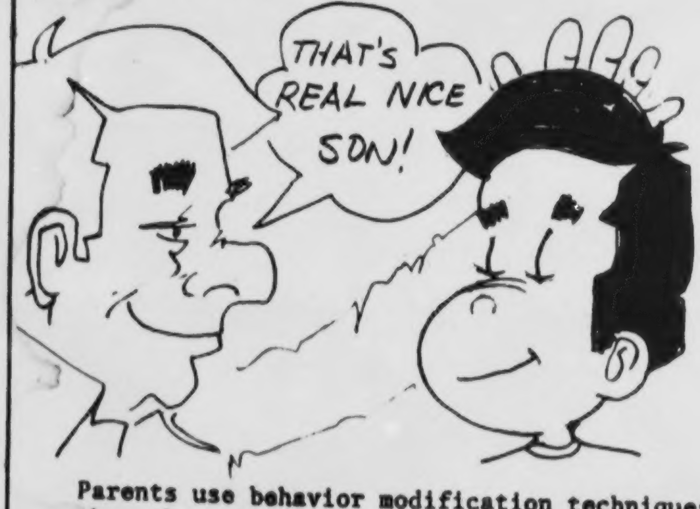
13. Effective behavior modification requires that the problem behavior be clearly specified. This means that you will have to learn how to define behavior OBJECTIVELY. By this, we mean an impartial, unbiased, concrete definition of the way the behavior actually is - not how we "feel" it might be. Unfortunately, it is not always easy to keep our feelings out of our observations of behavior.

In behavior modification, we must define the problem behavior in an ______________ manner and make sure that it is clearly ____________.

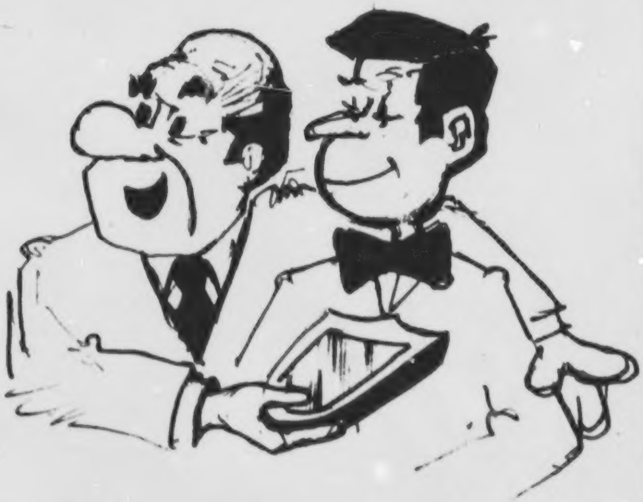
Objective
Specified

We will be discussing objective specification of problem behaviors in more detail later on in the course.

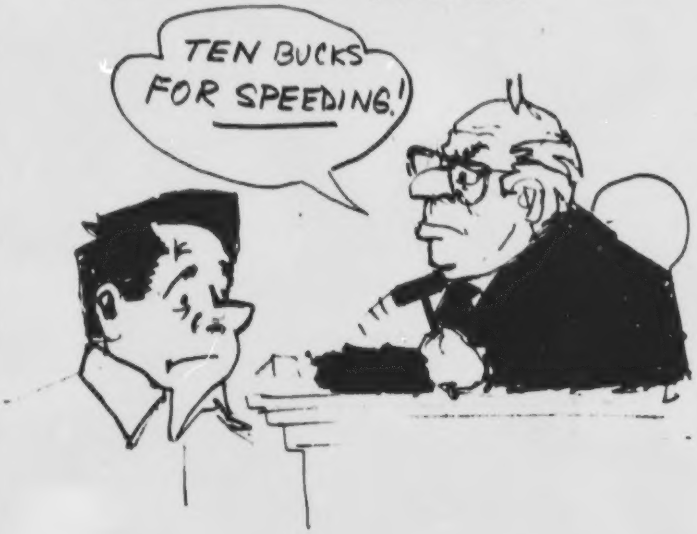
14. To a certain extent, we can say that behavior modification methods are just examples of "good old common sense." This is suggested by such examples as:


THAT'S REAL NICE SON!

Parents use behavior modification techniques when they praise their children for good behavior - hoping to make them keep it up.



Employees use promotions and incentive awards to encourage good job performance.


TEN BUCKS FOR SPEEDING!

Our laws - which involve fines and jail - are clearly intended to modify behavior.

Though behavior modification does involve some "common sense," this is not the whole story. Behavior modification involves the systematic application of learning principles. It is more scientific in its approach than just letting common sense operate as it will. Instead, the

behavior modification method specifies under what conditions - and in what circumstances - each of the "common sense" components of it should be applied. Behavior modification and "common sense" mean the same thing. _____ True _____ False	False
15. As we will see later, behavior modification involves many techniques or ways of doing things. Most of the techniques have one aim. This is to make the person's life better by changing some part or another of their behaviors. Most behavior modification techniques have the aim of _____________ the person's life by changing certain aspects of their _____________.	Improving Behavior
16. The initial step in any behavior modification procedure involves careful analysis of the behavior which is causing trouble for the person. This could be in terms of trouble in the family, school, job, or other situation. What is the first step involved in any behavior modification procedure? _____________	Analysis of the behavior causing trouble
17. In behavior modification, it is important that the description of the person's behavior be based on observations made in the situation, where the troublesome behavior occurs. You should base your descriptions of a person's troublesome behavior on _____________ made in the _____________ where the behavior occurs.	Observations Situation
18. It is important that the observations you make involve careful quantitative records or statements concerning the frequency of behaviors you intend to deal with. You will need _____________ records concerning the _____________ of behaviors you intend to deal with in your behavior modification program.	quantitative Frequency

19. In addition to obtaining a detailed description of the person's behavior, you should try to find out:

(1) What are the circumstances under which the behavior seems to occur, and,

(2) What are the environmental consequences that are operating to maintain the behavior.

You have carefully observed the person's behavior and have developed quantitative records concerning the frequency of the behavior you are interested in. What other things do you need to do?

(1) ______________________________
____

(2) ______________________________
____

Find the circumstances under which the behavior occurs.

Determine the environmental consequences maintaining it.

20. Earlier we discussed the idea of reward as being important in behavior modification. The technical term for this is POSITIVE REINFORCEMENT.

Positive reinforcement is a technical term used in behavior modification. It means the same thing as ______________.

Reward

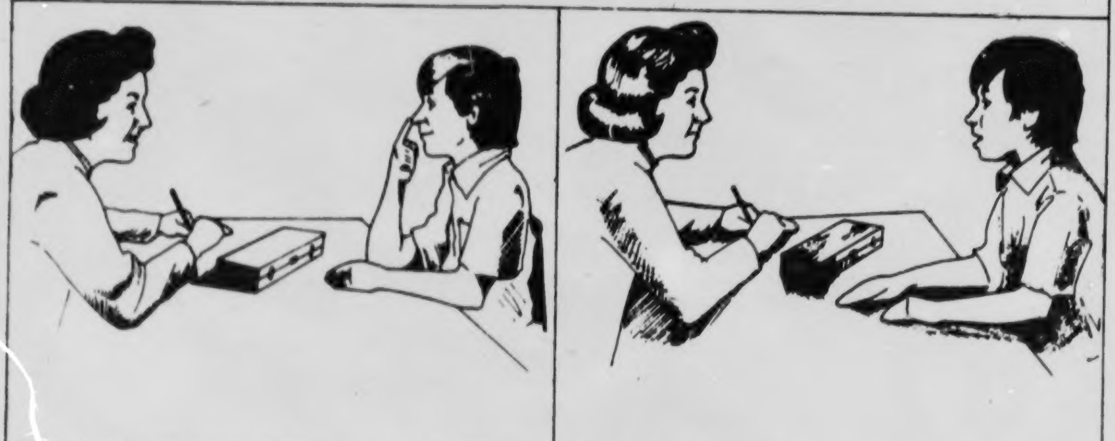
21. A positive reinforcer (or reward) is any event which follows a behavior that increases the chances of that behavior occurring again.

Example: You are attempting to teach a patient to give an appropriate response when he is greeted by another person in a social situation. Each time that the patient gives an appropriate response, you "reward" him by giving him a cup of coffee or a cigarette. The idea is that the "reward" will increase the chances that the patient will give the appropriate response when he is greeted next time in a social situation. The cup of coffee and the cigarette would be positive reinforcers.

What is a positive reinforcer? ________ ____________________________________ ____________________________________ ____________________________________ ____________________________________.	Any event following a behavior that increases the chance of that behavior occurring again.
22. Positive reinforcers include such things as money, food, toys, as well as social events such as praise, attention, and activities - such as being able to play a game of pool or watch television. Indicate which of the following items or events are positive reinforcers. ____ a. A stick of chewing gum. ____ b. A piece of candy. ____ c. A soft drink. ____ d. A nickle. ____ e. Praise. ____ f. Scolding. ____ g. A pat on the back.	a, b, c, d, e, g
23. You need to keep in mind that what is reinforcing (or motivating) for one individual is not necessarily motivating for another. One person may really be "turned on" by the chance to watch television, as a reward. Another could care less about it. What is reinforcing for one person is always reinforcing for another. ____ True ____ False	False
24. When working with behavior modification procedures, it is necessary for you to determine what particular items and activities will reinforce a particular person's behavior at a particular point in time. You must determine what particular events and activities will be ____________ for a particular individual.	Reinforcing

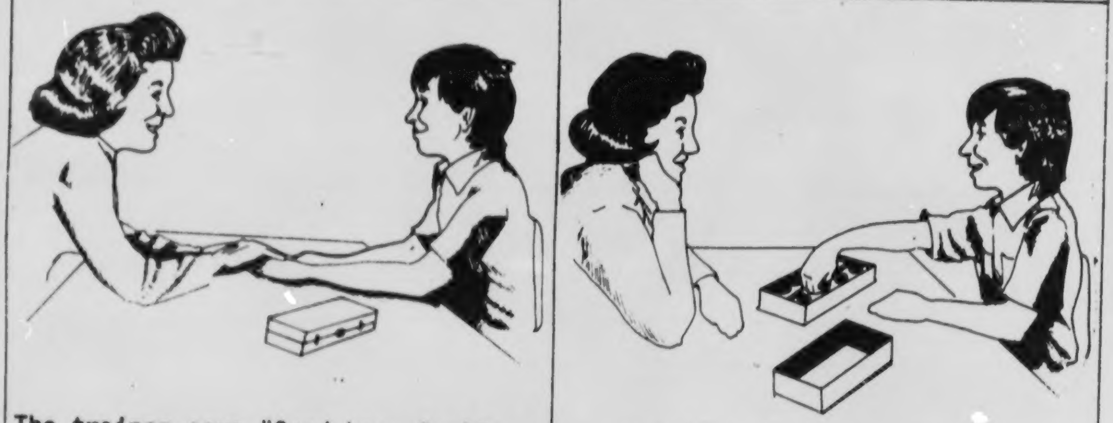
25. As we will see later in the course, positive reinforcement is used to develop and maintain new behavior. Example: You wish to teach someone how to count money. Each time that the person counts the money correctly you give him a positive reinforcement. This helps develop and maintain desired, new money-counting behavior. Generally, positive reinforcement is used to develop and maintain ______________ behavior.	New
26. The frequency of undesired behavior can be reduced by removal of positive reinforcement. Example: A patient has been permitted to leave the ward to go to the snack bar when he desires to do so. However, lately he has been abusive to other patients. His snack bar privileges - a positive reinforcement - are suspended until he stops the abusive behavior. Removal of positive reinforcement can be used to decrease the frequency of ______________ behavior.	Undesirable
27. Positive reinforcement has been shown to be successful in teaching social behavior, improving classroom and dormitory behavior, in motivating better and faster learning of academic materials and in teaching various kinds of new functional skills such as toileting, feeding, dressing, and the like. Positive reinforcement has been shown to be useful in teaching which of the following? a. Social behavior. b. Academic materials. c. Functional skills. d. All of the above.	d. All of the above

A SIMPLIFIED EXAMPLE OF BEHAVIOR MODIFICATION.



The trainer says "Say nose, Paul".

After a time, Paul says "Nose".



The trainer says "Good boy, Paul"...

... and gives Paul a reward or token for saying nose.

The above pictures illustrate - in greatly simplified form - how the "token exchange" system of operant conditioning is used to produce a desired behavior. That is, to teach an autistic child to say "nose". When the child says "nose", he is rewarded with verbal praise and a "token" such as candy or a trinket. The technique can be used to foster development of a variety of adaptive behaviors.

28. One form of positive reinforcement involves the TOKEN ECONOMY. This is basically a work-payment incentive system where a person receives tokens for appropriate behavior. Later, they are allowed to exchange the tokens for a variety of positively reinforcing items and activities. The token itself could be a poker chip, play money, or some other similar item. The token economy is a __________ incentive system in which the person receives __________ for appropriate __________.	Work-Payment Tokens Behavior
29. The token economy has particular advantages for use with institutionalized individuals. Here it is used to strengthen behaviors needed by the individual if he is to be restored to life within the community. Such behaviors include: regular job performance, self-care, maintenance of one's living quarters, and money management. The token economy's work-payment approach is particularly useful with __________ individuals.	Institutionalized
30. Later during the course we will be discussing shaping, which is a behavior modification method using positive reinforcement. In shaping, a desired behavior is broken down into successive steps that are then taught one-by-one. In shaping, the steps involved in a given behavior are __________ down and taught __________.	Broken One-by-One
31. Each step towards the desired behavior is reinforced until it is mastered, after which the individual moves on to the next step. In shaping, each step leading towards the desired behavior is __________ until it is __________.	Reinforced Mastered
32. In the shaping technique, new behavior is learned gradually as the individual comes closer and closer to the desired behavior.	

New behavior is learned ______________ during the shaping process, as each step is ______________.	Gradually Reinforced
Example: In getting an autistic individual to speak, you would reinforce even the slightest movement of the lips and then later even meaningless sounds as the individual attempted to speak. You would keep this process up until gradually the shaping process resulted in the individual being able to produce meaningful speech.	
In shaping, behavior that approximates the desired behavior is ______________ even though it does not represent the final behavior you are after. Eventually, ______________ of such "successive approximations" will result in the individual being able to produce the desired behavior.	Reinforced Reinforcement
33. Another example of the use of positive reinforcement is seen in MODELING. In this method, a person who already knows how to behave in a certain way shows the learner how. Then, when the learner repeats the behavior, he is reinforced.	
In modeling, the learner ______________ the desired behavior which has been shown to him by someone who already knows how to perform the behavior.	Repeats (Imitates)
Example: You want to teach a person the proper way of greeting a member of the opposite sex. One way you can do this is have someone who knows how to perform the behavior go through it. Then, the learner would be encouraged to repeat the behavior he saw "modeled." If he does so, he is reinforced. If not, you try again until he is successful.	
34. Up to this point we have been talking mainly about positive reinforcement. There is another type of reinforcement used in behavior modification: NEGATIVE REINFORCEMENT.	

There are two kinds of reinforcement procedures used in behavior modification. They are ______ reinforcement and ______ reinforcement.	Positive Negative
35. Negative reinforcement involves use of an unpleasant stimulus to help keep the person from engaging in inappropriate behavior. Negative reinforcement involves the use of an ______ stimulus.	Unpleasant
36. Negative reinforcement is also known as aversive behavior therapy. The unpleasant stimulus is called an AVERSIVE STIMULUS. Aversive behavior therapy involves the use of an unpleasant stimulus which is called an ______ ______.	Aversive Stimulus
37. In the aversive behavior therapy technique, the individual can avoid the unpleasant - or aversive - stimulus so long as he does not display the undesirable behavior. If the person does not engage in ______ behavior, he can avoid the unpleasant stimulus used in the aversive behavior therapy technique.	undesirable
38. Effectiveness of aversive therapy is increased when it is accompanied by positive reinforcement of appropriate behavior. You should also positively reinforce ______ behavior when using aversive behavior therapy.	Appropriate
39. Aversive therapy techniques have been used successfully to deal with such inappropriate behaviors as self-mutilations, addictions, and certain sexual behaviors.	
40. Commonly used aversive behavior therapy methods include mild ELECTRIC SHOCK, TIME-OUT, AND FINES.	

List three commonly used aversive therapy methods: (1) ______________________ (2) ______________________ (3) ______________________	Mild electric shock, Time-Out, Fines
41. Low-level electric shock is particularly helpful in reducing the occurrence of severe behavioral problems such as self-injurious behavior. Self-injurious behavior can be dealt with in aversive behavior therapy by use of low-level ______________.	Electric Shock
42. The low-level electric shock used in aversive behavior therapy causes no lingering pain or tissue damage and can be carefully controlled. The level of electric shock used in aversive behavior therapy causes no lingering ______ ____________ or ____________ damage.	Pain Tissue
43. TIME-OUT, or the removal of positive reinforcement (such as the privilege of remaining in an activity) following an undesirable behavior is considered to be aversive. Time-Out is an ____________ behavior therapy method.	Aversive
44. A common time-out procedure involves isolating an individual from any social contact following an inappropriate behavior. In time-out, the individual is ____________ from ____________ contacts for a brief period.	Isolated Social
45. For greater effect, time-out should be combined with a variety of positive reinforcements for appropriate behavior. This is particularly true when you are using time-out to reduce hyperactive, rebellious and disruptive behavior. The effectiveness of time-out in reducing aggressive, hyperactive, rebellious, and disruptive behavior is increased by combining it with ____________.	Positive reinforcement

46. FINES are also classified as aversive behavior therapy methods. In fining, the individual is required to give up some positive reinforcement (such as tokens, his television viewing time, etc.) as a consequence of his inappropriate behavior.

An individual failed to clean up his room before the designated time. He is required to give up 15 minutes of his television viewing time. This is called a __________. It is classified as an ____________________ behavior therapy method.

Fine
Aversive

47. Research findings suggest that aversive stimuli do not generalize very much. That is, their effects seem to be restricted to a particular behavior in a particular situation. While an aversive stimulus may reduce the incidence of "head banging", the fact that it is being used with a given individual may have no effect whatsoever on reducing the incidence of the individual gouging at his nose.

Aversive stimuli tend to be restricted to a particular _______________ in a particular _______________. For this reason, it is said that aversive stimuli do not _______________ very much.

Behavior
Situation
Generalize

48. Those who work with aversive stimuli find that their effects may be only temporary in some cases. Even so, some benefit can be gained. This is because there will be a period of time when the undesirable behavior is not being performed. This time can be used to help the individual learn new appropriate responses.

In some cases, the effects of aversive stimuli are only _______________ effective in reducing the occurrence of undesirable behavior. During the periods where such behavior is temporarily interrupted, you should help the individual learn _______________ appropriate behavior.

Temporarily
New

49. Research findings on aversive behavior therapy suggest that one of the best ways to eliminate undesirable behavior is to follow it with an aversive stimulus while at the same time positively reinforcing desired behavior.

To eliminate undesirable behavior, the undesirable behavior should be followed by an ______________ stimulus, while at the same time ______________ reinforcing ______________ ______________ behavior.	Aversive Positively Desired
50. There is another method you can use to reduce the occurrence of undesirable behavior. This is called OVERCORRECTION. In this method, the individual not only has to remedy a disruptive situation he has caused, but has to go beyond this to overcorrect it. That is, he has to restore the disrupted situation he has caused to a better state than existed before the disruption. Example: A resident overturns a bed in a dormitory. After the incident, he is required not only to "right" the bed and make it up again, but to also straighten the bedding on all the other beds in the dormitory. In this example, making up the overturned bed corrects the situation that the behavior disrupted; straightening up the other beds provides the "overcorrection." In "overcorrection," the individual is required to do ______________ than just set a disruptive situation back to its original state.	More
51. Overcorrection is generally classified as an aversive behavior therapy method. This is because it requires (1) effort to complete the overcorrection, and (2) the individual is unable to engage in other more desirable behavior while he completes the correction task. Overcorrection is generally regarded as an ______________ behavior therapy method.	Aversive
52. Overcorrection has been shown to be particularly effective in eliminating aggressive and disruptive behavior in institutionalized patients. It has an advantage over other methods used to deal with such problems, in that SEVERE aversive stimuli need not be involved in overcorrection.	

All overcorrection methods involve the use of severe aversive stimuli. _____ True _____ False	False
53. A great deal of concern has been expressed over the ethical and legal aspects of behavior modification. These concerns involve such things as: a. Fear that it will lead to "mind control." b. The fact that it is used most often to alter the behavior of persons who are involuntary participants - who are powerless because of institutionalization. Some people fear that behavior modification will lead to _______________.	Mind Control
54. As B. F. Skinner has pointed out, like any technology, behavior modification can be used carelessly or for immoral ends. However, it is "ethically neutral." That is, it can be used by villain or saint. There is nothing in the methodology which determines the values governing its use. As a method, behavior therapy is ethically _______________.	Neutral
55. Skinner maintains that a more sensible approach is to view behavior modification as a procedure which involves altering the nature of the controlling conditions of behavior rather than imposing control where none existed before. In Skinner's view, behavior modification is a procedure which involves altering the nature of the _______________ conditions of behavior.	Controlling
56. As generally practiced, the goal of behavior modification is not to force people to conform or behave in some mindless way. Instead, the goals developed for the approach focus on providing an individual in distress with (1) new skills and individualized options and (2) developing creativity and spontaneity.	

The goals of behavior modification focus on providing an individual in distress with: (1) ______________________ (2) ______________________	New skills and options Creativity and spontaneity
57. None of us would deny that there is a need for ethical safeguards for behavior modification programs. As a minimum, these safeguards must include these factors: a. Client involvement. b. A balance of risk and benefit. c. Appropriate review by outside persons. d. Effectiveness of the procedures to be used. e. Plans for accountability of the program. Guidelines provided in the Commissioner's Rules 302.04.07 "Behavior Modification Programs" require consideration of these ethical safeguards. We will discuss these safeguards in greater detail in a later unit.	
As a minimum, ethical safeguards for behavior modification programs need to include: a. ______________________ b. ______________________ c. ______________________ d. ______________________ e. ______________________	Client involvement Balance of risk and benefit Outside review Effectiveness of procedure to be used Accountability
Guidelines for use of behavior therapy modification programs used within Texas Department of Mental Health Mental Retardation can be found in ______________________.	Commissioner's Rule 302.04.07.

In the preceding material, we noted that many years of careful laboratory research have gone into development of the basis for the behavior modification techniques. We noted that the behavior modification methods currently being used include procedures suitable for use in the school, clinic, and in the mental institution. The procedures we discussed can be used with normal adults and children and with the mentally disadvantaged, including the retarded, the senile, and the psychotic. We saw that behavior modification methods have been used to ameliorate a wide range of problems including mutism, self-destructive behavior, and inappropriate fears. Also, behavior modification methods have been used to teach a great variety of appropriate, normal behaviors to institutionalized clients, including normal speech, appropriate social behavior, and suitable classroom skills.

We discussed the concern that some have expressed that behavior modification methods may be used by those in power to control and manipulate others. We noted that a more sensible approach is to view behavior modification as a procedure which alters the nature of the controlling conditions of behavior, rather than imposing control where none existed before.

We touched briefly on the fact that aversive procedures, easy to abuse, have also raised serious concerns. It is important to keep in mind that these methods can, however, be used to benefit patients greatly, as when aversive techniques are used to eliminate life-threatening, self-destructive behavior. We closed our discussion by noting that the guidelines provided in Commissioner's Rules 302.04.07 "Behavior Modification Programs" if diligently observed - will provide the safeguards needed to prevent abuse of behavior modification as a valuable treatment strategy in helping restore the client to a productive life in society.

Student Quiz 100-1
Code 76-6

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

Introduction to Behavior Modification

Multiple Choice Items

1. Which of the following can be accomplished by use of behavior modification therapy technique?
   - a. Strengthen and maintain behaviors that are appropriate
   - b. Weaken and eliminate behaviors that are inappropriate
   - c. Teach and shape new behaviors which did not previously exist in an individual's behavioral repertoire.
   - d. All of the above

2. Most behavior modification procedures are based on the principle that people are
   - a. basically "mindless"
   - b. influenced by the consequences of their behavior
   - c. all the same
   - d. none of the above

3. Behavior modification techniques are useful in a wide variety of situations, such as:
   - a. Child rearing by parents
   - b. Instructional activities of teachers
   - c. Therapeutic efforts of mental health workers.
   - d. All of the above

4. Which of the following represents a characteristic of a token economy?
   - a. an individual imitates a behavior which has been modeled for him.
   - b. an individual displaying an appropriate behavior is given an item (such as a poker chip) which he can exchange for a desired item or activity
   - c. an individual is exposed to an unpleasant stimulus as a consequence of undesirable behavior
   - d. none of the above

5. Commonly used aversive behavior modification techniques include:
   - a. time-out
   - b. fines
   - c. successive approximations
   - d. a and b

True-False Items

6. Basically, behavior modification is little more than the systematic application of learning principles to actual, everyday problems - such as alleviating human suffering and enhancing human functioning.

_____True _____False

7. The basic assumption in behavior modification is that a person's behavior is influenced by the consequence of his behavior.

_____True _____False

8. The techniques of behavior modification are generally directed towards developing improved self-control by expanding an individual's skills, abilities, and independence.

_____True _____False

9. In behavior modification, you are not much concerned with observable behavior and its environmental context. Instead, you are more interested in finding out the individual's reasons for behaving as he does.

_____True _____False

10. Within Texas Department of Mental Health and Mental Retardation, the term behavior therapy modification means the control of selected behaviors through the consistent and systematic manipulation of both antecedent and consequent stimuli.

_____True _____False

11. An important feature of behavior modification relates to its attempts to influence behavior by changing the environment and the way people interact.

_____True _____False

12. Effective behavior modification does not require that the problem behavior be clearly specified. Thus, the mental health worker need not worry about defining the response that is to be learned or reduced.

_____True _____False

13. Behavior modification includes psychosurgery, electroconvulsive therapy, and the noncontingent administration of drugs, and other procedures which function to modify a person's behavior.

_____True _____False

14. Behavior modification involves a family of techniques which have the common goal of enhancing clients' lives by changing specific aspects of their

behavior.

____True ____False

15. Behavior modification involves the systematic variation of behavioral and environmental factors associated with a client's behavioral difficulties, with the primary goal of modifying his or her behavior in the direction that the client's agent has chosen.

____True ____False

16. Generalization of behavior modification results to the "normal" environment is aided by having the behavior modification program provide for a planned transition between the therapeutic situation and the client's "living" environment.

____True ____False

17. Positive reinforcement is a technical term used in behavior modification which is roughly synonymous with reward.

____True ____False

18. A positive reinforcer is defined as any event following a given response that increases the chances of that response occurring again.

____True ____Fa[illegible]

19. What is reinforcing (or motivating) for some individuals is always reinforcing for others.

____True ____False

20. Positive reinforcers include tangible items such as money or food, social events such as praise or attention, and activities, such as being able to engage in recreation or to watch television or listen to the radio.

____True ____False

21. In shaping, the new behavior is learned gradually as the individual comes closer and closer to an approximation of the behavioral goal.

____True ____False

22. In the token economy, the participants receive tokens when they engage in appropriate behavior. Later, they exchange the tokens for a variety of positively reinforcing items and activities.

____True ____False

23. A disadvantage of the token economy method is that professional personnel are required to conduct all phases of the program.

_____True _____False

24. In shaping, a desired behavior is broken down into successive steps that are taught one-by-one.

_____True _____False

25. In modeling, an individual who already knows how to engage in some desired behavior demonstrates the behavior for the person who is learning.

_____True _____False

26. In aversive behavior modification methods, an aversive stimulus (something unpleasant to an individual) is used to help the person reduce the tendency to engage in an inappropriate behavior.

_____True _____False

27. Removal of positive reinforcement (such isolating a client) following performance of a given undesirable behavior is considered to be aversive.

_____True _____False

28. When used for reducing hyperactive, rebellious, and disruptive behavior, time-out should be combined with a variety of positive reinforcing procedures for appropriate behavior.

_____True _____False

29. In time-out, an individual who has engaged in an inappropriate behavior not only remedies the situation he has caused, but also "overcorrects" it by restoring the disrupted situation to a better state than existed before the disruption.

_____True _____False

30. In fining, the individual is required to give up some positive reinforcement (such as a given number of tokens, television viewing time, etc.) following performance of an inappropriate behavior.

_____True _____False

31. Research findings suggest that one of the most effective ways to eliminate inappropriate behavior is to follow it with aversive stimuli, while at the same time positively reinforcing desired behavior.

_____True _____False

32. A disadvantage of using low-level electric shock in behavior modification is that it causes lingering pain and tissue damage and cannot be precisely controlled.

_____True _____False

33. In the aversive therapy technique, the individual can avoid the aversive stimulus as long as he or she does not engage in the undesirable behavior.

_____True _____False

34. In the ideal behavior modification situation, the mental health worker and the client decide together on a mutually agreeable set of treatment goals and on the means for obtaining these goals.

_____True _____False

35. When using behavior modification procedures with any individual, the mental health worker must determine what particular items and activities will reinforce that particular person's behavior at that particular time.

_____True _____False

36. For a positive reinforcer to be effective, a person has to have been temporarily deprived of them.

_____True _____False

37. Positive reinforcement has been used successfully in teaching social behavior, in improving classroom and dormitory management, in motivating better and faster learning of academic materials, and in teaching all kinds of new skills such as toileting, dressing, feeding, and the like.

_____True _____False

38. Positive reinforcement is generally used to develop and maintain new behavior.

_____True _____False

39. As generally practiced, the goal of behavior modification is not to force people to conform or behave in some mindless way. Instead, the goals developed for the approach focus on providing (1) new skills and individualized options and (2) developing creativity and spontaneity.

_____True _____False

40. Generally, the removal of positive reinforcement is used to decrease the frequency of undesired behavior.

_____True _____False

41. Describe the initial step which should be undertaken in any behavior modification program. ____

42. Where should the actions specified for the above initial step be undertaken?

43. What should the action taken as the initial step involve? ____________________

44. Who can take the actions needed to meet the requirements specified for the initial step in a behavior modification program? ____________________

45. In addition to obtaining detailed descriptions of what the client does and not do, the mental health worker should ____________________

46. The token economy is useful for strengthening which types of behaviors of institutionalized patients? ____________________

47. Overcorrection has been shown to be particularly effective in eliminating what kinds of behavior in institutionalized patients?____________

48. Maintenance of improvement in a client's behavior is enhanced when the behavior modification program in use includes:____________

49. What makes behavior modification more than just"common sense"?____________

50. What do we mean when we say that the behavior modification process is usually a reciprocal one?____________

Solution to Student Quiz 100-1
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

Introduction to Behavior Modification

1. d
2. b
3. d
4. d
5. d
6. True
7. True
8. True
9. False
10. True
11. True
12. False
13. False
14. True
15. True
16. True
17. True
18. True
19. False
20. True
21. True
22. True
23. False
24. True
25. True
26. True
27. True
28. True
29. False
30. True
31. True
32. False
33. True
34. True
35. True
36. False
37. True
38. True
39. True
40. True

41. The initial step in any behavior modification procedure involves analysis of the client's behavior which is functioning to cause distress or to interfere with the client's optimal functioning in familial, social, vocational, or other important areas.

42. The description made as part of the initial step should, to the extent possible, be based on observations of the client in the situation where the distress is apparent.

43. The observations made as part of the initial step involve careful quantitative records or statements about the relative frequency of various behaviors.

44. Required observations may be made by the mental health worker, an assistant, a parent, the client - in some cases - or one of the client's peers if appropriate. For example:

    a. A parent could be trained to talley the number of times a client stutters.
    b. A teacher might keep a record of an emotionally disturbed child's aggressive outbursts, and,
    c. A well trained and motivated individual could count the frequency of the occurrence of an unacceptable habit such as engaging in ritualistic behavior.

45. In addition to obtaining detailed descriptions of what the client does and does not do, the mental health worker should attempt to determine the circumstances under which the behavior seems to occur and the environmental consequences that are operating to maintain it.

46. The token economy is particularly appropriate for use with institutionalized individuals, as a means of strengthening behavior which is compatible with that which is needed when the individual is restored to life within the community - such as regular job performance, self-care, maintenance of one's living quarters, and money management.

47. Overcorrection has been shown to be particularly effective in eliminating aggressive and disruptive behavior in institutionalized patients. It has a particular advantage over other methods used to deal with such behavioral problems, in that severe aversive stimuli need not be involved in overcorrection.

48. Maintenance of improvement in a client's behavior is enhanced when the behavior modification program includes

    a. specification of the environment in which the client normally lives and
    b. a provision for establishing and strengthening behavior which is desired, or is useful in, the clients "normal"environment.

49. What makes behavior modification more than just common sense is its scientific basis. To further amplify,

    a. the principles of behavior modification operate to codify and organize the common sense aspect of the approach

    b. the scientific organization of behavior modification procedures specify under what conditions and in what circumstances each aspect of the "common sense" component should be applied.

50. One needs to remember that the behavior modification process is usually a reciprocal one. That is, the "behavior modifier" attempts to shape the behavior of some other person by changing the consequences of that person's behavior. However, at the same time, the "behavior modifier's" behavior is in turn shaped by the other person's response. The client can make use of his own understanding and control of himself and his environment to resist, or even counterinfluence, the behavior of the "behavior modifier."

Lesson Plan 100-2
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

PRINCIPLES OF LEARNING RELATED TO BEHAVIOR MODIFICATION

LESSON PRESENTED TO : TDMHMR Personnel Participating in Behavior Modification Programs

PLACE : Classroom

REFERENCES :

Ayllan, T. and Azrin, N. The Token Economy: A Motivational System For Therapy and Rehabilitation. New York: Appleton-Century-Crofts, 1968

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Reese, Ellen P. The analysis of Human Operant Behavior. Dubuque, Iowa: Willian C. Brown Co., 1966.

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Wolpe, J. The Practice of Behavior Therapy. New York: Pergamon Press, 1969.

STUDY ASSIGNMENT : Read student handout M 200-1 "Principles of Learning Related to Behavior Modification".

INSTRUCTIONAL MATERIALS: AND EQUIPMENT Chalkboard, chalk,eraser, 35 mm projector and transparencies numbered 100-2-0 through 100-2-23

TYPE OF INSTRUCTION : Lecture and Group Discussion

I. INTRODUCTION

A. Opening Statement

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As we learned in the previous class session, behavior modification represents the application of the principles of learning theory to actual, everyday life problems. These learning principles have been derived from and tested in psychological laboratory research during the past seventy-five years. Pavlov, Thorndike, Watson, Hull and especially B. F. Skinner are learning theorists who have contributed greatly to our understanding of how people learn. The basic assumption of learning theory is that most human behavior is learned behavior. Of particular interest to us is the fact that with a knowledge of the basic principles of learning theory, behavior can be understood and changed.

B. Objectives

The objectives of this instructional unit is to acquaint the student with the principles of learning which undergird the behavior modification approach and to show how their systematic application will enable the student to:

Note: Display transparency 100-2-1

a. Strengthen and maintain behaviors which are appropriate.

Note: Display transparency 100-2-2

b. Weaken and eliminate behaviors which are inappropriate.

Note: Display transparency 100-2-3

c. Teach and shape new behaviors which previously did not exist in an individual's behavioral repertoire.

II. PRESENTATION

A. Historical Origins of the Behavior Modification Method

1. Development of Behaviorism

   a. Early in this century, during the period when the psychoanalytic model inspired by Freud was at the height, a new school called BEHAVIORISM was emerging to challenge its supremacy.

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b. The early behaviorists maintained that the psychoanalysts' study of subjective experience - via the techniques of free association and dream analysis, did not provide acceptable scientific data, since such observations were not open to verification by others.

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c. In the behaviorist's view, only the study of directly observable behavior - and the stimulus and reinforcing conditions that "control" it - could serve as a basis for formulating scientific principles of human behavior.

d. The model proposed by the behaviorists to counter the subjective experience model of the psychoanalysts was organized around a single theme - learning.

e. Actually, the origins of the behavioristic model can be traced to the work of a Russian physiologist named Ivan Pavlov. However, credit for its development is largely given to three American psychologists: J.B. Watson, E.L. Thorndike and B.F. Skinner.

2. Pavlov's Discovery of the Conditioned Reflex

a. During the time that he was performing a series of studies on the salivary response in dogs, Pavlov discovered the phenomenon we now refer to as the CONDITIONED REFLEX.

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b. Pavlov found that if a stimulus which automatically brings about salivation (such as a bit of food) is presented while a tone is being sounded, after several repetitions the tone itself will come to bring about the salivation. Also, just seeing the person who ordinarily brought the food, or hearing his footsteps, produced salivation on the dog's part.

c. This simple conditioning method came to be a key approach in the study of learning; and the conditioned reflex came to be a fundamental concept in the theory and practice of behavior modification.

3. Watson's Behaviorism

a. J.B. Watson, an American psychologist, seized upon Pavlov's principle of conditioning as a procedure for studying human behavior.

b. Watson's approach placed heavy emphasis on the role of the social environment in "conditioning" personality development and on the importance of assessing the effects of given stimuli on learning and behavior.

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c. Watson and an associate named Rayner used the conditioning technique to provide a dramatic demonstration showing the role of learning in abnormal behavior. This was their now-famous experiment with Little Albert, an eleven-month-old boy who was fond of animals.

The Experiment:

Watson and Rayner demonstrated that an irrational fear or phobia could be readily learned through conditioning, via this simple procedure: The experimenter stood behind the child and struck a steel bar with a hammer whenever he reached for a white rat. The unexpected loud noise elicited a fear response on the boy's part and made him cry. After several repetitions of this experience, the child became greatly disturbed at the sight of the animal - even without the loud noise. His fear generalized to include other furry animals and objects as well. This demonstration of the development and generalization of the child's irrational fear suggested to Watson and Rayner that other types of abnormal behavior might also be the result of learning.

4. Jone's Experiments on Elimination of Conditioned Fears

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a. Another behaviorist, Mary Cover Jones, demonstrated that such conditioned fears could be eliminated by presenting a white rabbit at a distance when a child, previously conditioned to fear it, was reacting positively to food. Food, was, of course, an anxiety inhibitor.

b. By bringing the animal gradually closer, always being careful to avoid over-balancing the positive tendency by the strength of the negative fear tendency, she was able to finally eliminate the child's fear and replace it with pleasant feelings toward the white rabbit. These feelings, in turn, were shown to generalize to other furry animals.

5. Thorndike's Contributions

a. The work of Pavlov and Watson convinced many researchers that all learning is based on conditioned reflexes (or Pavlovian conditioning) and that studying the lawful properties of such conditioned reflexes could explain human behavior.

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b. However, it was not long before E.L. Thorndike developed a second fundamental concept giving strength to the behavioristic model. In his "law of effect", Thorndike observed that responses that have rewarding consequences are strengthened or learned, while responses that have negative or aversive consequences are weakened or extinguished.

c. Thus, Thorndike emphasized that the control of man's behavior is through the mechanism of rewards and punishments.

6. Skinner's Early Contributions

a. Following Thorndike's earlier lead, Skinner concluded that the most important, understandable, and manipulable determinants of behavior lie OUTSIDE the organism in environmental events.

b. Skinner maintained that these outside determinants of behavior can be manipulated to control the learning and behavior of the organism. He expressed it this way:

> "The practice of looking inside the organism for an explanation of behavior has tended to obscure the variables which are immediately available for a scientific analysis. These variables lie outside the organism, in its immediate environment and in its environmental history."

7. The Emergence of Operant Conditioning

The contributions made by Thorndike and Skinner led to a second major concept of conditioned learning called operant conditioning. This concept has had a far-reaching influence not only on prevailing views of how man learns but also on current techniques of behavior modification and therapy.

8. Summary of the Behaviorist's Position

As discussed above, learning constitutes the central theme of the behavioristic model, and since most of man's behavior is learned, the behaviorists have tended to focus on the question of how learning comes about. In trying to answer this question, they have turned their attention to environmental conditions or stimuli that can be related to the acquisition, modification, and weakening or elimination of response patterns.

B. The Two Types of Conditioning

1. Respondent (Classical) Conditioning

Behaviorists typically distinguish between RESPONDENT (or classical) and OPERANT conditioning and the responses which are characteristic of each form.

2. We know that, even prior to learning, certain appropriate stimuli will elicit specific responses, such as relatively simple reflexes or emotional responses.

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Example: A bright light causes the pupil of the eye to constrict and a sudden loud noise leads to a fear response.

3. The bright light in the preceding example is considered to be an unconditioned stimulus (UCS) because it serves to bring about the response of constriction--without any learning having to occur. The response (constriction of the pupil) is called an unconditioned response (UCR) because again, no learning has to occur for the response of constriction to take place.

You might also see these abbreviated as US and UR.

4. Through conditioning, these same responses may also be brought about by a wide range of other stimuli. This is called respondent conditioning. In it, a stimulus that did not previously elicit--or bring about-a given response has now come to elicit it.

   Example: An animal, after consistently hearing a bell when food is presented, will start salivating at the sound of the bell alone.

5. A good example of respondent conditioning in humans is found in the experiment discussed earlier in which "little" Albert was conditioned to fear a white rat. A stimulus that did not previously elicit a given response has now come to elicit it.

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6. The stimulus is now referred to as a conditioned stimulus (CS) and the response, as a conditioned response (CR), because they are learned. As you might expect, the repeated presentation of the conditioned stimulus (for example, the bell in the animal salivation experiment) without the unconditioned stimulus (food) leads to the extinction, or elimination, of the learned response. We will have much to say about this phenomenon in a later class.

B. Operant Conditioning

1. In the operant conditioning technique, instead of being presented with a stimulus that elicits a known response, the subject is placed in a situation in which he learns to make a response that brings about either (1) the attainment of a goal or (2) the satisfaction of a need.

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2. This is where Skinner derived the use of the term OPERANT: the subject "operates" upon or modifies his environment. For example, a hungry rat may be placed in a cage that has a lever or bar. In the course of exploring the cage, the rat eventually presses the bar and is immediately given a bit of food. Before long, the rat presses the bar again and the same thing happens. Eventually the rat learns to press a bar to obtain food. The rat has undergone operant conditioning. We can see that operant responses are thus determined by their consequences. This concept is fundamental to behavior modification.

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3. At the human level, operant conditioning is involved, for example, in the learning of language as a means of communication - for sending and receiving messages.

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4. The application of operant learning to mental health is illustrated by the use of rewards or reinforcers to foster social behavior among chronic schizophrenics and in teaching self-management skills to mentally retarded children and adolescents. We will have more to say about these uses of operant conditioning later in the training program.

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5. Skinner and his followers use operant conditioning to explain much about what transpires in learning behaviors. A central assumption in their approach is that much of our behavior is controlled by its consequences. That is, we act the way we do because of the consequences of our acts. If these consequences of our acts are "good", we tend to repeat the acts. If the consequences are "bad", we will tend to do something else next time.

6. In operant conditioning, you try to arrange conditions in such a manner as to alter the rate at which an operant behavior occurs or is "emitted" or displayed. You alter this rate by manipulating the consequences of the behavior. These consequences are referred to as "reinforcers" or "reinforcement".

7. There are two basic types of reinforcers: positive and negative.

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8. A positive reinforcer is a consequence or event that increases the rate of any behavior that it follows. In everyday terms, we would view this as a "reward". For example, you praise a child for "good" behavior in an attempt to increase the rate at which such behavior occurs.

Note: Display transparency 100-2-17

9. A negative reinforcer then is a consequence or event that increases the rate of any behavior when it is REMOVED following the occurrence of that behavior. For example, a threat would be a negative reinforcer because it would tend to increase the rate of any behavior leading to its removal, such as a child learning his ABC's to avoid having to stay inside the classroom during recess, which has been "threatened" by the teacher. Keep in mind, however, that - where possible - it is usually much better to use positive reinforcement in learning experiences than it is to use negative reinforcement. There is an exception to this general statement, as we shall see later during the period.

C. The Contingency Concept

1. Skinner emphasized the importance of the contingency concept. To amplify, if reinforcement is seen as an event or consequence that follows behavior, then the behavior can be said to "operate" so as to produce the reinforcement. The resulting relationship between the behavior and the reinforcing event is then said to be a "contingent"

relationship. Quite simply, the reinforcement is produced BY the behavior and is not available unless the behavior occurs.

2. Four basic types of contingencies which exist between behavior and the events that reinforce the behavior are generally recognized.

   a. Contingent relation behavior resulting in the presentation of a positive reinforcer.

Note: Display transparency 100-2-18

This particular type of contingent relationship is the one which is frequently most employed in behavior modification programs. Here, if a person performs the behavior one is seeking, he is rewarded in some way. The reward may be one of many things such as food, money, a smile, the opportunity to engage in pleasant activities or to do something else that he likes to do. Importantly, if the reward is truly reinforcing to the person, the rate of behavior will increase.

   b. Behavior resulting in the presentation of an aversive stimulus.

Note: Display transparency 100-2-19

The second type of relationship is one that is often called "aversive" stimulation. Frequently employed aversive stimuli are threats, physical punishment and ridicule. For example, a young child may be trained not to touch certain objects by spanking his hands if he does. The anticipation is that the child will now refrain from touching the objects in order to escape the punishment. When this occurs, one can be said to be exercising aversive control over the child's behavior.

   c. Behavior resulting in the removal of a positive reinforcer.

Note: Display transparency 100-2-20

Another type of contingent relationship really qualifies as a form of "punishment". For example, we can punish by withholding what we know in fact to be positive reinforcers. We may put a child on restriction (having to stay inside for a week) because he or she failed to do his chores. In this case, we punish not by doing anything aversive to the child but by withholding from him opportunities to engage in behavior which is rewarding, such as playing outside.

   d. Behavior resulting in the removal of a negative reinforcer.

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The fourth type of contingency relationship is in some ways a type of reward, even though it is not generally considered to be such. For example, a father may nag his teenage son in order to get him to take out the garbage. If he does so, the father will cease his nagging. Behaviors that keep away naggings, threats, scoldings, pain, and other negative reinforcers are frequently called "avoidance" behaviors. In other words, the person can avoid the negative - and undesirable - consequences by engaging in the desired behavior.

E. Extinction

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In addition to these four basic contingent relationships, there is a fifth relationship used in operant conditioning. This is the condition known as "extinction". This simply refers to the disruption of a contingency relationship so it no longer operates. A common approach is to remove a positive reinforcer, not so as to constitute a form of punishment, but simply as a means of causing the behavior to disappear. For example, a child may tell wild tales in order to get his parents' attention. However, if the parents refuse to pay attention to the child's stories, the behavior will tend to "extinguish" or disappear.

1. Many times we cannot wait for extinction to occur with certain behaviors. For example, behaviors such as fighting, throwing objects, and harming self or others, may require immediate attention.

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2. One approach which has been used effectively is to place the client in a time-out room. In time out, the client is removed from the reinforcers in his environment and placed in a bare room which provides no reinforcers.

3. Another approach might be reinforcing a behavior that is incompatible with the undesirable behavior. For example, you might try giving increased attention to some desirable behavior. We will discuss these all in greater detail later in the course.

F. Summary of Contingency Relationships

From the preceding discussions, we know that behavior can be increased in terms of frequency or maintained merely by the addition of positive reinforcers (and/or the removal of negative reinforcers). We know also that behavior can be decreased in frequency by the removal of positive reinforcers (and/or the addition of negative reinforcers). We saw also that behavior can be removed from an individual's behavioral repertoire or markedly reduced through the process of extinction, which is nothing more than the removal of contingent events. Thus, we can see that behavior modification is based on attempts to arrange contingencies in such a way that desired behaviors are increased in frequency and maintained and undesired behaviors are either decreased in frequency or totally removed. Just how we go about developing and maintaining such contingencies will be one of our main interests during the remainder of the course.

Note: At this time, administer Student Quiz 100-2 "Principles of Learning Related to Behavior Modification". Use the quiz results as a basis for clearing up misconceptions and reteaching material the students failed to grasp during the course of instruction.

III. SUMMARY

During this unit, we discussed the historical background of the treatment method we know today as behavior modification. Of particular interest to us were the concepts of operant conditioning and reinforcement. We noted that behavior modification represents the application of the principles of learning theory to actual, everyday life problems. These learning principles have been derived from and tested in psychological research over the past seventy-five years. Pavlov, Thorndike, Watson, Hull and especially B.F. Skinner contributed greatly to our understanding of them. The basic assumption in behavior modification is that most human behavior is controlled by its consequences. With a knowledge of the basic principles of learning theory, behavior can be understood and changed. Systematic application of basic learning prinicples will allow you to:

- Strengthen and maintain behaviors which are appropriate.
- Weaken and eliminate behaviors which are inappropriate.
- Teach and shape new behaviors which previously did not exist in a client's behavioral repertoire.

Programmed Student Handout 100-2
Code 76-7

Texas Department of Mental Health Mental Retardation

Principles of Learning Related to Behavior Modification

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame."
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

1. In the preceding class session, you learned that behavior modification involves the SYSTEMATIC application of learning principles to solving everyday behavioral problems that are troublesome for an individual, the family or the community. Behavior modification involves the systematic application of ______________________ ______________________________________	LEARNING PRINCIPLES
2. By systematically applying learning principles we can: a. strengthen and maintain behaviors which are appropriate b. weaken and eliminate behaviors which are inappropriate c. teach and shape new behaviors which did not previously exist in an individual's behavior If we apply what we know about learning principles in a systematic way, we can: a. ______________________________ b. ______________________________ c. ______________________________	a. strengthen and maintain appropriate behavior b. weaken and eliminate inappropriate behavior c. teach and shape new behaviors
3. In this part of the course, we will discuss the learning principles used in behavior modification in some detail. We will also look at some of the history of this treatment method.	
4. Early in this century, when Freud and psychoanalysis was "the thing", a new approach to psychology was emerging. It was called BEHAVIORISM. The behaviorists maintained that the psychoanalysts' study of subjective experience - via the techniques of free association and dream analysis, did not provide acceptable scientific data. The behaviorists maintained that the observations derived were not open to verification by others.	

Why did the behaviorists object to the data the psychoanalysts used, such as free association and dreams? ____________________ ____________________ ____________________	The data could not be verified by the observation of others
5. In the behaviorist's view, only the study of directly OBSERVABLE behavior - and the stimulus and reinforcing conditions that "control" it - could serve as a basis for developing scientific principles of human behavior. The behaviorists maintained that emphasis should be on directly ____________ behavior and the stimulus and reinforcing conditions that "control" it.	Observable
6. The "model" proposed by the behaviorists to counter the subjective experience model of the psychoanalysts was organized around a single theme - learning. Central to the behaviorist's "model" was a single theme. This was ____________.	Learning
7. The early behaviorists insisted that the only meaningful way to develop scientific principles of human behavior was to study ________ ________ behavior. This approach was in contrast to the ________ experience model developed by the psychoanalytic "school".	Directly observable subjective
8. The origins of the behavioristic model can be traced to the work of a Russian physiologist named Ivan Pavlov. However, credit for its development is largely given to three American psychologists: J.B. Watson, E.L. Thorndike and B.F. Skinner. Early contributors to the behavioristic model included ________, ________, ________ and ________.	Pavlov Watson Thorndike Skinner
9. During the time that he was performing a series of studies on the salivary response in dogs, Pavlov discovered the phenomenon we now call the CONDITIONED REFLEX. Pavlov discovered the ________ reflex.	Conditioned

10. As shown in the following illustration, Pavlov found that if a stimulus which automatically brings about salivation (such as a bit of food) is presented while a tone is being sounded, after several repetitions the tone itself will come to bring about the salivation. Also, just seeing the person who ordinarily brought the food, or hearing his footsteps, produced salivation on the dog's part.

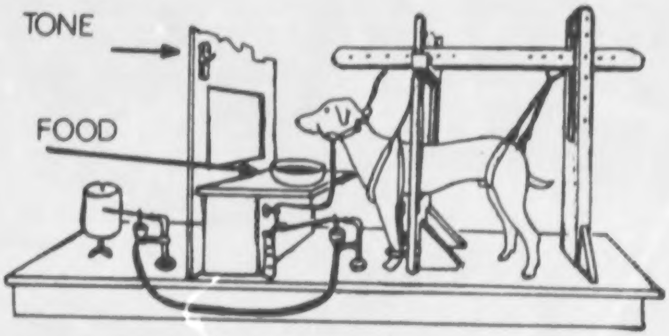

Figure 1. In Pavlov's experiment, a tone was sounded while a bit of food (which produced salivation) was presented. After several repetitions, the tone alone produced salivation. He called this a "conditioned reflex".

Pavlov discovered the ____________________ ____________. This came from his observation that a stimulus (food) which automatically brings about salivation - when paired with another stimulus (such as a tone or footsteps of the foodbearer) - could cause the tone or footsteps to also bring about ______________.

Conditioned reflex

Salivation

11. This simple conditioning method came to be a key approach in the study of learning; and the conditioned reflex came to be a fundamental concept in psychological theory and practice.

12. WATSON AND "BEHAVIORISM". J. B. Watson, an American psychologist saw Pavlov's principle of conditioning as a procedure which could be used for studying human behavior. Watson combined Pavlov's approach with certain ideas of his own coming up with a point of view which he called "behaviorism". His approach emphasized the role of the social environment in "conditioning" personality development and on the importance of measuring the effects of given stimuli on learning and behavior.

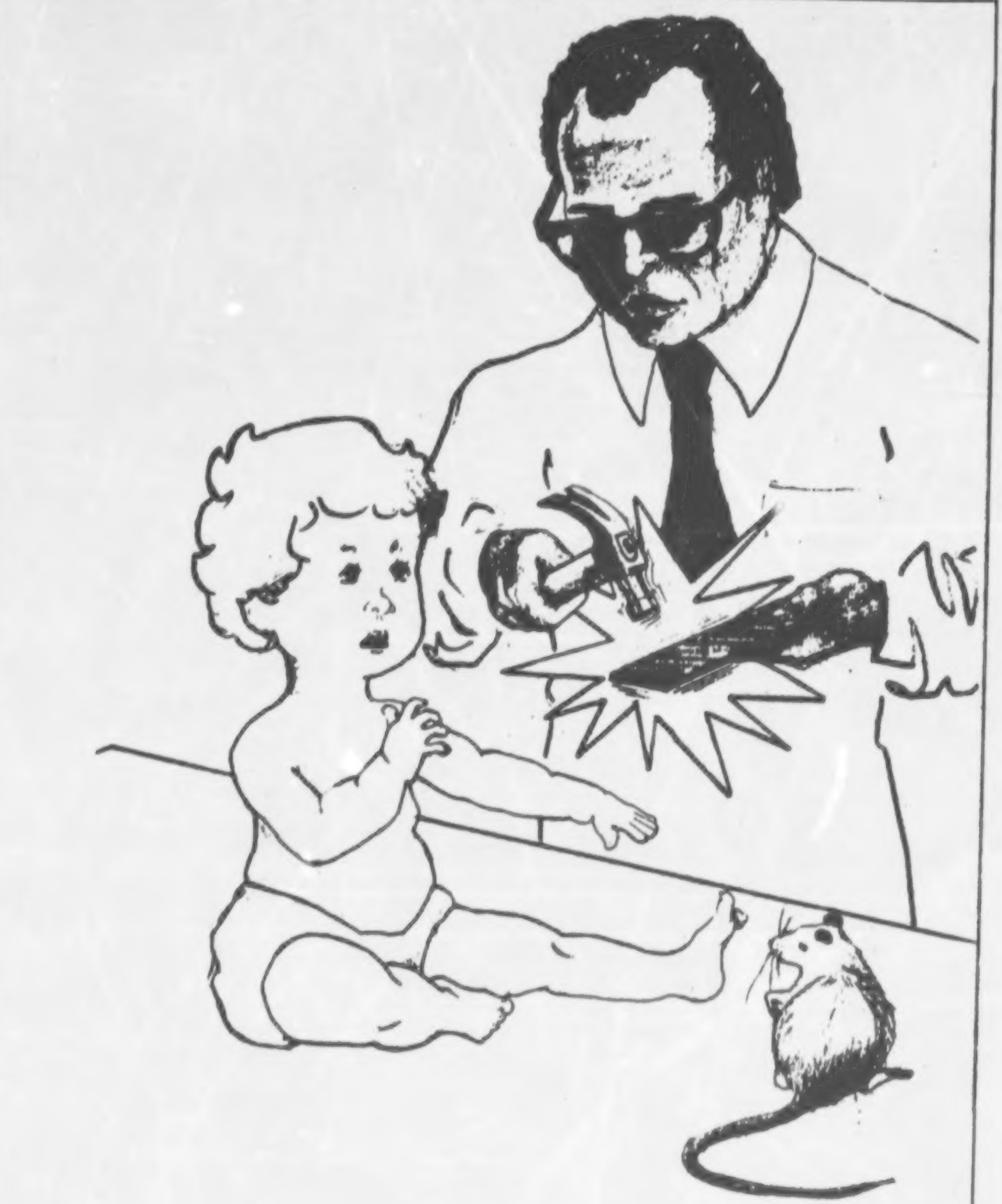

Figure 2. Watson and Rayner showed that an irrational fear could be learned through conditioning. While an infant was reaching for a white rat, the experimenter made an unexpected loud noise - eliciting a fear response which generalized to the white rat and other furry objects as well.

In Watson's "behaviorism", heavy emphasis was placed on the role of the ______________ environment in "conditioning" personality development.	Social
13. Watson and an associate named Raynor used the conditioning technique to provide a dramatic demonstration showing the role of learning in abnormal behavior. This was their now-famous experiment with little Albert, an eleven-month old boy who was fond of animals. Watson and Raynor demonstrated the role of ______________ in abnormal behavior.	Learning
14. In the "Little Albert" experiment, Watson and Rayner demonstrated that an irrational fear or phobia could be readily learned through conditioning, via the simple procedure shown in Figure 2. The experimenter stood behind the child and struck a steel bar with a hammer whenever he reached for a white rat. The unexpected loud noise elicited a fear response on little Albert's part and made him cry. After several repetitions of this experience, the child became greatly disturbed at the sight of the animal - even without the loud noise. His fear generalized (or spread) to include other furry animals and objects as well. Little Albert's fear of the white rat ________ to include other furry animals and objects as well.	Generalized
Watson and Raynor's demonstration of the development and generalization of the child's irrational fear suggested to them that other types of abnormal behavior might also be the result of learning.	
15. The Watson and Rayner experiment with "Little" Albert demonstrated how an irrational ________ of furry animals could be developed and how this fear could ______________ to include other furry ______________ as well.	Fear Generalize Objects
16. Another behaviorist, Mary Cover Jones, demonstrated that conditioned fears such as shown by Little Albert could be eliminated by presenting a white rabbit at a distance when a child, previously conditioned to fear the rabbit was reacting positively to food. Food	

in this case served to inhibit anxiety associated with fear of the rabbit. By bringing the animal gradually closer, always being careful to avoid over-balancing the positive tendency by the strength of the negative fear tendency, she was able to finally eliminate the child's fear and replace it with pleasant feelings toward the white rabbit. These feelings, in turn, were shown to generalize to other furry animals.	
The Jones experiment just described demonstrates that conditioned fears can be eliminated by gradually ________________ a "positive" tendency - or anxiety inhibitor - such as food, with a negative fear tendency.	**Associating**
17. The work of Pavlov and Watson convinced many researchers that all learning is based on conditioned reflexes (or Pavlovian conditioning) and that studying the lawful properties of such conditioned reflexes could explain human behavior. However, other behaviorists experimented with a second concept that gave strength to the behavioristic model.	
18. Thorndike, in his famous "law of effect", observed that responses that have rewarding consequences are strengthened or learned, while responses that have negative or aversive consequences are weakened or extinguished. Thus, he emphasized that the control of man's behavior is through the mechanism of rewards and punishments.	
Thorndike's "law of effect" holds that responses that have rewarding consequences are ________________ or, while responses that have negative consequences are weakened or ________________.	**Strengthened** **Learned** **Extinguished**
Thorndike emphasized that the control of man's behavior is through the mechanism of __________ and ______________________.	**Rewards** **Punishments**
19. Following Thorndike's earlier lead, Skinner concluded that the most important, understandable, and manipulable determinants of behavior lie OUTSIDE the individual in environmental events. These he maintained can be manipulated to "control" the learning and behavior of the organism.	

Skinner's approach holds that learning and behavior can be "controlled" by manipulation of determinants which lie ________________ of the individual.	Outside
20. Skinner expresses his concept this way: "The practice of looking inside the organism for an explanation of behavior has tended to obscure the variables which are immediately available for a scientific analysis. These variables lie outside the organism, in its immediate environment and in its environmental history."	
Skinner concluded that the most important, understandable and manipulable determinants are based on ____________________ events, ________________ the organism.	Environmental Outside
21. Thorndike and Skinner's contributions led to a second major concept of learning called operant conditioning. This concept has had a far-reaching influence not only on views of how man learns but also on current techniques of behavior modification and therapy. We will discuss operant conditioning in more detail later.	
Thorndike and Skinner's work led to the major concept of learning which we call ____________ conditioning.	Operant
22. BASIC PRINCIPLES OF LEARNING	
Learning constitutes the central theme of the behavioristic model, and since most of man's behavior is learned, the behaviorists have tended to focus on the question of how learning comes about. In trying to answer this question, they have looked closely at environmental conditions or stimuli that can be related to the acquisition, modification, and weakening or elimination of response patterns.	
Behaviorists tend to focus their attention on ________________ conditions or stimuli in finding answers to the question of how learning comes about.	Environmental
Behaviorists typically distinguish between RESPONDENT (or classical) and OPERANT conditioning or learning and the responses which are characteristic of each form.	

The two types of conditioning or learning which the behaviorists distinguish are _____ _____ and _____.	Respondent (classical) Operant
23. In respondent conditioning, learning is accomplished by presenting a stimulus that is known to elicit a particular response. The stimulus is paired with a stimulus which does not produce the response. After a number of pairings, the second stimulus acquires the power to bring about the response.	
In respondent conditioning, a stimulus that did not previously elicit (or bring about) a given response has now come to _____ it.	Elicit
24. We know that, even prior to learning, certain stimuli will elicit specific responses, such as relatively simple reflexes or emotional responses. For example, a bright light causes the pupil of the eye to constrict and a sudden loud noise leads to a fear response. Through conditioning, these same responses may also be brought about by a wide range of other stimuli. As we saw in Figure 1, an animal, after consistently hearing a bell when food is presented, will start salivating at the sound of the bell alone.	
In respondent or classical conditioning, learning is accomplished by presenting a _____ that is known beforehand to produce a particular _____.	Stimulus Response
25. An example of respondent conditioning in humans is found in the experiment shown in Figure 2 in which "little Albert" was conditioned to fear a white rat. In the experiment, a stimulus that did not previously elicit a given response has now come to elicit it. The stimulus is now referred to as a conditioned stimulus (CS) and the response, as a conditioned response (CR).	
In the "little Albert" experiment, we have seen how a stimulus which did not previously elicit a given response can be made to do so. Such a stimulus is then called a _____ stimulus or (CS), and the response it produces is called a _____ response or (CR).	Conditioned Conditioned

26. As we will see later, the repeated presentation of the conditioned stimulus (for example, the tone in the animal salivation experiment) without the unconditioned stimulus (food) leads to the extinction, or elimination, of the learned response. The learned response is said to become extinguished. We will discuss this concept later in the program. Consider the animal experiment in Figure 1. What would happen if you keep presenting the conditioned stimulus (the tone) by itself-without pairing it again with the unconditioned stimulus (the food)? ____ ____ ____ ____	**It will be eliminated from the animals behavior; or it will become extinguished**
27. In the OPERANT conditioning technique, instead of being presented with a stimulus that elicits a known response, the subject - whether animal or human - is placed in a situation in which he learns to make a response that brings about either the attainment of a goal or the satisfaction of a need. In operant conditioning, the subject is presented with a stimulus that elicits a known response. ____True ____False	False
28. In operant conditioning, the subject "operates" upon or modifies his environment. For example, as shown in Figure 3, a hungry rat learns to operate on his environment to produce food. Operant Conditioning Experiment: A hungry rat is placed in a box that has a lever. In the course of exploring the box, the rat eventually presses the lever and is immediately given a bit of food. Before long, the rat presses the lever again and the same thing happens. Ultimately the rat learns to press the lever whenever he is hungry. Quiz: a. In learning to press a lever to obtain food, the rat has undergone ______________ conditioning.	Operant

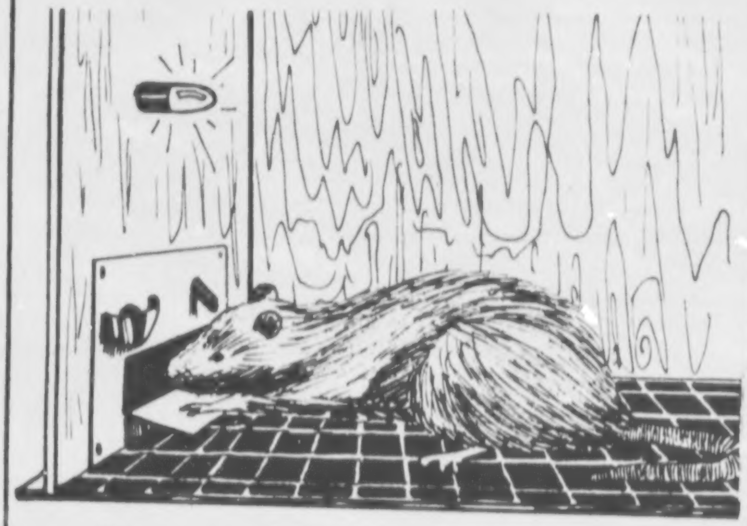

Figure 3. Operant Conditioning Experiment

b. We can see that operant responses are thus determined by their ____________.

Consequences

c. In operant conditioning, the organism is placed in a situation in which he ________ to make a response that brings about the attainment of a ________ or the satisfaction of a ________.

Learns

Goal
Need

d. In respondent conditioning, the organism is presented with a ____________ which elicits a __________ response. This stimulus is paired with another stimulus which does not produce the response. After a number of pairings, the second stimulus acquires the ability to also ____________ the response.

Stimulus
Known

Elicit

29. Review:

Skinner's work has concentrated upon OPERANTS rather than upon responses, which were the central focus of Pavlov and others concerned with the classical conditioning model. An operant is defined as a behavioral act that "operates" on the environment in order to attain a certain outcome. For example, the ACT of drinking alcohol as a means of relieving tension and anxiety is an operant.

A behavioral act that "operates" on the environment in order to obtain a certain outcome, such

as the release of tension, is called an ______________.	Operant
30. Skinner and his followers use operant conditioning to explain much about what transpires in learning behaviors. A central assumption is that much of our behavior is controlled by its CONSEQUENCES. That is, we act the way we do because of the consequences of our acts. If these consequences of our acts are "good", we tend to repeat the acts. If the consequences are "bad", we will tend to do something else next time.	
A central assumption of Skinner and his followers is that much of our behavior is controlled by its ____________________.	Consequences
31. In Skinner's view, an operant is an "EMITTED" behavior rather than an "elicited" behavior. We say that it is emitted because we are not certain just what the stimulating conditions are. All that we know for sure is that the behavior occurs. On the other hand, in an elicited response, such as the salivation of Pavlov's dogs, we know exactly what the stimulus is and are reasonably certain that the behavior occurred as a response to that particular stimulus.	
An operant is said to be __________ rather than elicited because we are not certain of the ________________ conditions.	Emitted Stimulating
32. In operant conditioning studies, you try to arrange conditions in such a manner as to alter the rate at which an operant occurs or is emitted. You alter this rate by manipulating the consequences of the behavior. As we discussed earlier, these consequences are referred to as "reinforcers" or "reinforcement".	
In operant conditioning, we try to alter the ______________ at which an operant occurs or is emitted by manipulating the ____________ of the operant behavior.	Rate Consequences

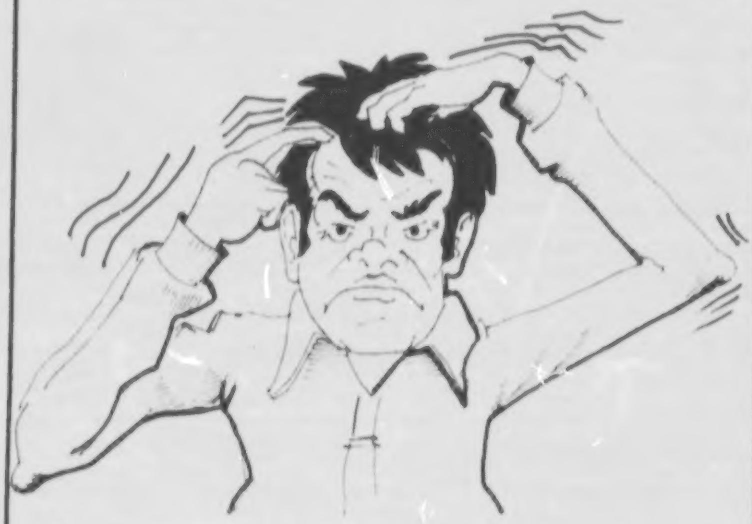

Figure 4. Head scratching is an "emitted"

33. We can use the head-scratching incident shown in Figure 4 to illustrate the concept of reinforcement. While most people scratch their heads at some time or another, we may occasionally come across an individual who scratches his head so frequently that his scalp becomes raw. Obviously, the rate at which he is emitting this behavior is too high for his own well-being. What are we to do? Well, if we were to approach the problem from the point of view of operant conditioning we would first try to find out what it is that REINFORCES the behavior. We would want to know, for example, what are the factors that keep the undesirable behavior going on, when it obviously is not in the individual's best interest. If we can discover these factors, we can then manipulate them so as to alter the rate of the undesirable behavior.

In trying to understand and deal with undesirable behavior, we first need to understand what ________________ the behavior.

Reinforces

34. As the above example illustrates, knowing just what reinforces behavior is of great concern in attempts to modify behavior. To review briefly, we know that a reinforcer is any consequence that can increase or maintain the rate at which a behavior is emitted. To qualify as a reinforcer, the consequence has to "work". If the consequence had no effect

upon the rate at which the behavior was emitted, it would not be a reinforcer. It would simply be another stimulus in the individual's environment.	
A reinforcer is any ______________ that can ______________ or ______________ the rate at which a behavior is emitted.	Consequence Increase Maintain
35. There are two basic types of reinforcers: positive and negative. A positive reinforcer is a consequence or event that increases the rate of any behavior that it follows. In everyday terms, we would view this as a "reward".	
A positive reinforcer is a consequence or event that ______________ the rate of any behavior that it follows.	Increases
36. A negative reinforcer then is a consequence or event that increases the rate of any behavior when it is REMOVED following the occurrence of that behavior. For example, a threat would be a negative reinforcer because it would tend to increase the rate of any behavior leading to its removal, such as a child learning his ABC's to avoid having to stay inside the classroom during recess, which has been "threatened" by the teacher.	
A negative reinforcer is a consequence or event that increases the rate of any behavior when it is ____________ following the occurrence of that behavior.	Removed
A positive reinforcer is a consequence or event that ____________ the rate of behavior that it follows.	Increases
A negative reinforcer is a consequence or event that increases the rate of any behavior when it is ____________ following the occurrence of that behavior.	Removed.
37. Skinner also emphasizes the importance of the CONTINGENCY CONCEPT. To explain, if reinforcement is seen as an event or consequence that follows behavior, then the behavior can be said to "operate" so as to produce the reinforcement. The resulting relationship between the behavior and the reinforcing event is then said to be a "contingent" relationship. Quite simply, the reinforcement is produced BY	

the behavior and is not available unless the behavior occurs.

The relationship observed between an observed behavior and a reinforcing event is called a ____________ relationship because the reinforcement is produced _____ the behavior and is not available unless the behavior ____________.

Contingent
By
Occurs

38. Four basic types of contingencies have been suggested as existing between behavior and the events that reinforce the behavior. These four types are:

a. A behavior resulting in the presentation of a positive reinforcer.

This particular type of contingent relationship is the one which is frequently most employed in behavior modification programs. Here, if a person performs the behavior one is seeking, he is rewarded in some way. The reward may be one of many things such as food, money,a smile, the opportunity to engage in pleasant activities or to do something else that he likes to do. Importantly, if the reward is truly reinforcing to the person, the rate of behavior will increase.

If a reward is truly reinforcing to the person, the rate of behavior will ____________.

Increase

b. A behavior resulting in the presentation of a negative reinforcer.

The second type of contingent relationship is one that is often called "aversive" stimulation. Frequently employed aversive stimuli are threats, physical punishment and ridicule. For example, a young child may be trained not to touch certain objects by spanking his hands if he does. The anticipation is that the child will now refrain from touching the objects in order to escape the punishment. When this occurs, one can be said to be exercising aversive control over the child's behavior.

Reinforcers such as threats, physical punishment and ridicule are referred to as ____________ stimulation.

Aversive

c. A behavior resulting in the removal of a positive reinforcer.

Another type of contingent relationship really qualifies as a form of "punishment". For example, we can punish by withholding what we know in fact to be positive reinforcers. We may put a child on restriction (having to stay inside for a week) because he or she failed to do his chores. In this case, we punish not by doing anything aversive to the child but by withholding from him opportunities to engage in behavior which is rewarding, such as playing outside.

One form of "punishment" which may be used in behavior modification is ______________ what we know to be positive reinforcers.

Withholding

d. A behavior resulting in the removal of a negative reinforcer.

This contingency relationship is in some ways a type of reward, even though it is not generally considered to be such. For example, a father may nag his teenage son in order to get him to take out the garbage. If he does so, the father will cease his nagging. Behaviors that keep away naggings, threats, scoldings, pain, and other negative reinforcers are frequently called "avoidance" behaviors. In other words, the person can avoid the negative - and undesirable - consequences by engaging in the desired behavior.

An important type of contingency relationship involves a person avoiding negative consequences by engaging in the _______ behavior.

Desired

39. In addition to the above four basic contingent relationships, there is a fifth relationship used in operant conditioning. This is the condition known as "extinction". This simply refers to the disruption of a contingency relationship so it no longer operates. A common approach is to remove a positive reinforcer, not so as to constitute a form of punishment, but simply as a means of causing the behavior to disappear. For example, a child may tell wild tales in order to get his parents' attention. However, if the parents refuse to pay attention to the child's stories,

the behavior will tend to "extinguish" or disappear.	
Extinction involves ____________ of a contingency relationship so that it no longer operates. This is most commonly done by removing a positive ________________.	Disruption Reinforcer
Many times we cannot wait for extinction to occur with certain behaviors. For example, behaviors such as fighting, throwing objects, and harming self or others, may require immediate attention. One approach which has been used effectively is to seclude the client in a time-out room. In time out, the client is removed from the reinforcers in his environment and placed in a bare room which provides no reinforcers.	
40. A better approach than time-out might be reinforcing a behavior that is incompatible with the undesirable behavior. For example, you might try giving increased attention to some desirable behavior. Or, you might try CHARGING. In this approach you take away previously earned reinforcers to "punish" the undesirable behavior. In some situations, you may wish to employ SATIATION. This involves giving a great number of reinforcers as a means of weakening behavior.	
This approach has been used to extinguish undesirable behaviors such as hoarding towels and junk.	
In time-out, you ________ the person from reinforcers in his ______________.	Remove Environment
In charging, you ________________ previously earned ______________ as "punishment" for an undesirable behavior.	Take away Reinforcements
When you give a large number of reinforcers in an attempt to weaken or remove a behavior, you are practicing ______________.	Satiation
41. In general, we can say that behavior modification methods which use operant conditioning techniques will use one or the other of these five basic contingency operations. We know that behavior can be increased in terms of frequency or maintained merely by the addition of positive reinforcers (and/or the removal	

of aversive stimuli). We know also that behavior can be decreased in frequency by the removal of positive reinforcers (and/or the addition of aversive stimuli). We saw also that behavior can be removed for an individual's behavioral repertoire or markedly reduced through the process of extinction, which is nothing more than the removal of contingent events. Thus, we can see that behavior modification is based on attempts to arrange contingencies in such a way that desired behaviors are increased in frequency and maintained and undesired behaviors are either decreased in frequency or totally removed.

Behavior modification is based on attempts to arrange ____________ in such a way that (1) desired behaviors are __________ in frequency and maintained and (2) undesirable behaviors are either __________ in frequency or _____.

Contingencies
Increased
Decreased
Removed

We will be discussing the practical application of contingency operations and other learning principles in future sessions of the course.

Student Quiz 100-2
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

PRINCIPLES OF LEARNING RELATED TO BEHAVIOR MODIFICATION

Multiple Choice Items

1. Systematic application of learning principles will enable you to:
   - a. strengthen and maintain behaviors which are appropriate
   - b. weaken and eliminate behaviors which are inappropriate
   - c. teach and shape new behaviors which previously did not exist in an individual's behavior repertoire
   - d. all of the above

2. A basic assumption in learning theory is that
   - a. human behavior is not quantifiable
   - b. human behavior is controlled by its consequences
   - c. principles of learning derived from studying animals do not apply to humans
   - d. none of the above

3. The early behaviorists focused on studying
   - a. subjective experience
   - b. dreams
   - c. free association data
   - d. directly observable behavior

4. Thorndike's "law of effect" emphasized that
   - a. behavior is controlled through the mechanism of rewards and punishment
   - b. only the pleasure principle is important in behavior
   - c. what one observes in a laboratory situation bears little relationship to a real life setting
   - d. none of the above

5. In Skinner's view, the most important, understandable, and manipulable determinents of behavior are
   - a. those which the individual subjectively experiences
   - b. variables which are outside the person, in his immediate environment and in his environmental history
   - c. the individual's physiological and psychological response tendencies
   - d. none of the above

6. In operant conditioning, the individual is placed in a situation in which he learns to make a response that

   a. satisfies a need
   b. attains a goal
   c. gives him control of the situation
   d. both a and b

7. A positive reinforcer is

   a. a consequence or event that increases the rate of any behavior it follows
   b. always a tangible item
   c. frequently used to suppress behavior
   d. none of the above

8. A "contingent" relationship is characterized by

   a. sole reliance on the use of aversive stimuli
   b. the behavior of interest operating to produce the reinforcement
   c. frequent use of covert conditioning techniques
   d. none of the above

9. In a behavior modification program, an individual is removed from the reinforcers in his environment and placed in a bare room which provides no reinforcers. What is this procedure called?

   a. extinction
   b. time-out
   c. restraint
   d. counter-conditioning

10. Behavior can be increased in terms of frequency by

   a. adding positive reinforcers
   b. removal of negative reinforcers
   c. merely ignoring it
   d. both a and b

True/False Items

11. Thorndike's "law of effect" emphasized that the control of man's behavior is through the mechanism of rewards and punishment.

_____True _____False

12. Skinner maintained that the control of learning and behavior can be best obtained by manipulation of the immediate environment.

_____True _____False

13. Behaviorists typically distinguish between two types of conditioning: covert and operant:

_____True _____False

14. In respondent conditioning, learning is accomplished by presenting a stimulus that is known to elicit (bring about) a particular response.

____True ____False

15. A bright light causes the pupil of the eye to constrict. This is an example of operant conditioning.

____True ____False

16. In operant conditioning, a stimulus that did not previously elicit a given response has now come to elicit it.

____True ____False

17. Operant responses are determined by their consequences.

____True ____False

18. The operation of respondent learning is illustrated by the use of rewards or reinforcers to foster social behavior among psychiatric patients.

____True ____False

19. A positive reinforcer is a consequence or event that decreases the rate of any behavior that it follows.

____True ____False

20. If a reward (or positive reinforcer) is truly reinforcing to a person, the rate of behavior will increase.

____True ____False

21. One can punish not by doing anything aversive, but by withholding opportunities for the child to engage in behavior which is rewarding--such as watching television.

____True ____False

22. Extinction refers to the disruption of a contingency relationship so that it no longer operates.

____True ____False

23. Behavior can be increased in frequency by the removal of positive reinforcers (and/or the addition of negative reinforcers).

____True ____False

24. Behavior modification is based upon attempts to arrange contingencies in such a way that (1) desired behaviors are increased in frequency and maintained and (2) undesired behaviors are either decreased in frequency or totally removed.

____True ____False

25. The origins of the behavioristic model (and behavior modification) can be traced to the work of Freud and his psychoanalytic "model".

____True ____False

Completion Items

26. Learning constitutes the central theme of the ________________ model.

27. Behaviorists typically distinguish between ________________ and ________________ conditioning and the responses which are characteristic of each form.

28. The behaviorist usually turns his attention to ________________ conditions (or stimuli) that can be related to the acquisition, modification, and weakening or elimination of response patterns.

29. In ________________ conditioning, learning is accomplished by presenting a stimulus that is known to bring about, or elicit, a particular response.

30. In ________________ conditioning, instead of being presented with a stimulus that elicits a known response, the subject is placed in a situation in which he learns to make a response that brings about either (1) attainment of a goal or (2) satisfaction of a need.

Matching Items

Match the term shown under Column I with the appropriate definition shown under Column II. Put the letter corresponding to your choice of the correct definition for the term in the space provided next to the term.

Column I	
____31. behavior modification	a. conditioning technique in which a stimulus that did not previously bring about a given response now brings it about.
____32. "law of effect"	b. situation in which the reinforcement is produced by the behavior and is not available unless the behavior occurs.
____33. law of effect	c. systematic application of principles of learning to solving everyday problems causing distress for an individual or others
____34. respondent conditioning	d. responses that have rewarding consequences are strengthened or learned while responses that have negative consequences are weakened or extinguished.

____35. conditioned stimulus (CS)

____36. reinforcement

____37. contingent relationship

____38. time-out

____39. negative reinforcer

____40. extinction

____41. conditioned reflex

____42. reflex behavior

____43. unconditioned stimulus

____44. operant

____45. positive reinforcer

e. consequence or event that increases the behavior it follows

f. principle developed by Thorndike which sees behavior as controlled via rewards and punishment.

g. a stimulus (such as a bell) which has acquired the power to elicit a particular response (such as salivation) through a learning process

h. removal of a client from the reinforcers in his environment and placing him in a bare room which provides no reinforcers

i. consequences which function to alter the rate at which an operant behavior is emitted.

j. disappearance of a behavior due to nonreinforcement

k. a "school" of psychology which emphasized the study of directly observable behavior and the stimulus and reinforcing conditions that control it.

l. a covert behavior modification technique which is frequently used

m. a physical stimulus, such as a tap on the knee, results in display of the typical knee jerk

n. consequence or event that increases the rate of a behavior when it is removed following the occurrence of that behavior

o. stimulus which functions to bring about a specific response without learning having to occur

p. a stimulus which automatically brings about a reflex behavior (such as salivation or an eye blink) is presented in association with another stimulus which does not do so. After several repetitions, the "neutral" stimulus acquires the power to also bring about the reflexive behavior such as salivating or blinking the eye

q. response made by a subject which operates on - or modifies the environment so as to bring about either goal attainment or satisfaction of a need.

Solution to Student Quiz 100-2
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

PRINCIPLES OF LEARNING RELATED TO BEHAVIOR MODIFICATION

1. d
2. b
3. d
4. a
5. b
6. d
7. a
8. b
9. b
10. d
11. True
12. True
13. False
14. True
15. False
16. False
17. True
18. False
19. False
20. True
21. True
22. True
23. False
24. True
25. False
26. behavioristic
27. respondent, operant
28. environmental
29. respondent
30. operant
31. c
32. f
33. d
34. a
35. g
36. i
37. b
38. h
39. n
40. j
41. p
42. m
43. o
44. q
45. e

Lesson Plan 100-3
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

OBSERVATION AND MEASUREMENT IN BEHAVIOR MODIFICATION

LESSON PRESENTED TO : TDMHMR Personnel Participating in Behavior Modification Programs

PLACE : Classroom

REFERENCES :

Hall, R.V. Behavior Modification: The Measurement of Behavior, Lawrence KS: Hand H Enterprises, 1971.
Kazdin, A.E. Behavior Modification in Applied Settings, Homewood, Ill: Dorsey Press, 1975
Liberman, R.P. A Guide to Behavioral Analysis and Therapy. New York: Pergamon Press, 1972.
London, P. Behavior Control. New York: Harper & Row, 1969.
Rimm, D. C., and Masters, J.C. Behavior Therapy: Techniques and Empirical Findings. New York: Academic Press, 1974.
Schaefer, H.H., and Martin, P.L. Behavioral Therapy, New York: McGraw-Hill, 1969.
Tharp, R.G., and Wetzel, R.J. Behavior Modification in the Natural Environment. New York: Academic Press, 1969.
Ulrich, R.; Stachnik, T.; and Mabry, J. (Eds.), Control of Human Behavior. Vol. 2. Glenview, Ill: Scott Foresman, 1970.
Wenrich, W.W. A Primer of Behavior Modification. Monterey, CA: Brooks/Cole, 1970.
Whaley, D.L., and Malott, R.W. Elementary Principles of Behavior. New York: Appleton-Century-Croft.

STUDY ASSIGNMENT : Read Student Handout 100-3 "Observation and Measurement in Behavior Modification".

INSTRUCTIONAL MATERIALS AND EQUIPMENT : Chalkboard, chalk, eraser, 35 mm projector, transparencies numbered 100-3-0 through 100-3-39 and videotape 100-3 "Observation and Measurement In Behavior Modification"

TYPE OF INSTRUCTION : Lecture, Group Discussion, and Practical Exercise

I. INTRODUCTION

A. Opening Statement

Note: Display transparency 100-3-1

In our earlier sessions, we discussed some of the principles of behavior that can be used--in a systematic manner--to bring about changes in behavior. During this class session we will move one step further in helping you learn the skills and techniques needed to make behavioral changes. Our principal subject matter will be observation and measurement of behavior. This is because the very first step in implementing a program to change behavior involves (1) careful and controlled observation of the behavior as it is presently occuring (2) measuring the behavior, in terms of frequency of occurrence and (3) making a careful record of the behavioral observations we make, so that we will have a point of reference from which we can analyze our progress in accomplishing the desired behavioral change.

B. Instructional Objectives

Upon completion of this instructional unit, the student will be able to:

1. Specify why records of behavior are important and what must be considered when preparing to record behavior.
2. Demonstrate how behavioral data can be obtained using time sampling.
3. Demonstrate how behavioral data can be obtained using rating scales.
4. Specify sources of information that can be used to obtain baseline data.
5. Compute the rate of behavior when given the number of occurrences of that behavior during a specified interval.
6. Demonstrate how behavioral data can be summarized as a means of facilitating interpretation.
7. Determine whether or not an intervention has had the desired effect, or alternately, which of two treatments has been most effective, when given a graph and the treatment goals.

II. PRESENTATION

Note: Display transparency 100-3-2

A. Why Should our Focus be on Observable Behavior Rather than on Thoughts and Feelings in Developing Strategies for Changing Behavior?

- Behavior is more easily specifiable and observable than internal thoughts and feelings are.

- Behavior that is observable is countable or measurable.

- Measurable behavior allows us to actually determine whether the behavior is changing and whether the intervention is working.

B. Need for Behavioral Analysis to Precede Observation, Measurement, and Recording

Note: Display transparency 100-3-3

Before we can do a good job of observing and recording behavior, we really need to get clear in our mind just what behaviors we are interested in. In many cases, it is helpful to analyze the client's behavior in terms of these categories: excesses, deficits, and assets.

1. Behavioral excesses are behaviors which the client does too often, too much or at the wrong times.

Note: Display transparency 100-3-4

Example: Too much verbal name-calling and too many derogatory remarks made to other clients and the staff

Goal of the Behavioral Intervention: To reduce or weaken these behaviors.

2. Behavioral deficits are behaviors which the client fails to do as often as you would like, as much as you would like, or when you would like.

Note: Display transparency 100-3-5

Example: Failure to perform assigned ward or dormitory chores.

Goal of the Behavioral Intervention: To increase or strengthen these behaviors.

3. Behavioral assets are those client behaviors which you and others like.

Note: Display transparency 100-3-6

Example: Cooperative interaction with other clients.

Goal of the Behavioral Intervention: To maintain these client behaviors and to increase the number of behaviors which can be called assets.

C. The Need to be Specific when Analyzing and Defining Behaviors

Workers in the state schools and hospitals often describe their clients in such relative terms as "angry," "happy," "uncooperative," "sullen." In doing a behavioral analysis, you need to ask yourself the question, "What does the client actually do?" If he is an angry client, what does he do when he is in the state which you call "angry." Does he yell, scream, hit, poke, slam doors, run away, or what? These represent behaviors which you can actually observe. It is very important that as you do the behavior analysis you specify the behavior so that it is observable and countable.

D. Selection of Behaviors you Most want to Change

A list of behaviors which you want to change that may well be ten to fifteen items long. At this point, you may wonder how you will ever significantly change your client's behavior if you are allowed to work on only two problem behaviors at a time which is customary in behavior modification programs.

E. Estimate the Frequency of Occurrence of the Selected Target Behaviors

In working with clients, there are times when you will over or underestimate the frequency of occurrence of a particular behavior because of your emotional reactions to it. Emotion can color your perception of the behavioral problem and make it more difficult for you to be realistic. By having you to estimate the frequency of occurrence and then comparing it with your actual count of the behavior during baseline determination, this phenomenon becomes obvious. This procedure helps you correct your "misperception" tendencies.

F. Setting Goals for the Target Behaviors

You can set goals for the target behaviors in two different ways. Setting goals protects the client from the behavior modifier's changing expectations. Sometimes when you begin to see behavior change, you begin unwittingly to raise your standards for acceptable behavior. In such a situation, the client can never win, and the intervention program will probably eventually fail.

Note: Display transparency 100-3-7

1. First, you should decide whether you are trying a) to decrease a client's excess behavior, b) to increase a deficit behavior or, c) to maintain an asset or appropriate behavior.

2. Secondly, you should determine a level of frequency or duration for the target behaviors so that when that particular level is reached you will judge the behaviors to be acceptable.

Example: The goal for John is to increase his performance of routine self-help tasks to the level where he is doing four out of five of them daily.

G. The Need to Carefully Consider the Antecedents and Consequences of Behavior

Note: Display transparency 100-3-8

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In order to determine what is cueing and maintaining the client's target behavior, it is important that you take note of those events which both precede and follow the behavior. Some practitioners refer to this as conducting a situational analysis. The three parts of a situational ayalysis are the antecedent of the behavior, the behavior itself, and the consequence of the behavior. When one thoroughly understands the relationships between these three parts, he or she then will know how to change their client's behavior. Some practitioners refer to these as the ABC's of behavior.

- A stands for the antecedent or the stimulus situation which precedes the behavior. The question you ask in order to discover the antecedent is: "What happened just prior to the occurrence of the behavior?"
- B stands for the behavior. It requires a brief description of the actual behavior as it occurred.
- C stands for the consequence which immediately follows the behavior. The question you ask yourself to determine the consequence is: "What happened immediately following the occurrence of the behavior?"

H. Observing and Recording Behavior

Up to this point we have selected the target client,prepared a behavior analysis, selected target behaviors, estimated their frequency, and set the goals. Our discussion now will center on operationalizing the target behaviors and taking a look at some of the mechanical steps necessary for implementing an intervention program. An important concept we will deal with is that of "operationalizing" behaviors.

Note: Display transparency 100-3-9

1. "Operationalizing" target behaviors means that the behaviors must be defined in such a way that they can be observed and counted. To "operationalize" a target behavior requires that we do two things:

- Develop a detailed description of the topography or "shape" of the target behavior, and
- Make a decision about how the behavior is to be counted.

In our use the term topography refers to the process of describing in detail the features of a particular behavior so as to distinguish it from some other behavior. Unless this is done, the behavior will not be recognizable when it occurs. Only if the behavior is recognizable is it countable.

Note: Display transparency 100-3-10

Example: Perhaps you have chosen temper tantrums as a target behavior which you want to weaken. In giving a detailed description of temper tantrums,

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you would describe the physical actions of hitting people, falling on the floor, kicking legs and flailing arms and the verbal activity of yelling, crying and shouting. Then, when some (or all) of these things occur in combination, you would label what occurred a temper tantrum and proceed to count it.

2. Counting Behavior

In behavior modification, counts are usually given as a RATE such as the instances of ritualistic behavior per hour per day. The advantage of rate measures is that they make your counts comparable from one time to another. We compute a rate by dividing the number of occurrences of the behavior by the amount of time the behavior was observed, as follows:

$$\text{rate} = \frac{\text{count of behavior}}{\text{time observed}}$$

A target behavior can be counted in several ways:

Note: Display transparency 100-3-11

a. Frequency counting means that you count the number of times the particular behavior occurs within a given period of time.

Example: Provocative behavior is commonly encountered on the ward and in the dormitory. It may be defined in terms of verbal provocation such as name calling and critical remarks, and/or physical provocation such as poking, hitting and pushing. The total number of verbal or physical provocations within a given period (frequency) are to be counted.

In frequency counts, you simply record every time the behavior occurs, then add up all the occurrences and divide by the amount of time the behavior was observed. This gives you the rate. Frequency counts are useful primarily for behavior which have clear-cut beginnings and endings and which last for only a short time.

b. Duration counting means that you count the length of time the particular behavior lasts.

Note: Display transparency 100-3-12

Example: Studying a basic academic subject could be another target behavior. In this case, the behavior could be counted in terms of the total amount of time (duration) spent at the desk studying the academic material, or pounding on a wall, or pacing, or engaging in other behaviors.

c. Interval counting means that you count intervals of time in which the particular behavior occurs at least once.

Note: Display transparency 100-3-13

Example: Whining is another common target behavior observed among clients. A several hour period could be divided into ten minute intervals. In this case the number of ten minute periods (intervals) during which whining occurs would be counted.

In time-interval counts, you record whether or not the behavior occurred during a specified interval. The behavior can occur either once (recorded as +) or not at all (recorded as -) during the interval. The number of pluses (+) are then totaled. This sum is then divided by the number of intervals. This gives you the rate.

$$\text{rate} = \frac{\text{number of intervals in which the behavior occurs}}{\text{total number of intervals observed}}$$

Time intervals are generally used for behaviors which do not have a clear beginning or end or which last for varying amounts of time. Spells of "crazy talk" are an example of this type of behavior.

3. Observing the Target Behaviors: The Need for a Systematic Approach

   A. The effectiveness of the behavior modification approach depends upon careful observation and precise measurement of the client's behavior. Our interest at this point concerns the matter of observation and recording (or observational recording). We can say that observational recording occurs when an observer looks at another person's behavior and makes a record of what he sees as it occurs.

   B. General Rules of Observational Recording
   How do we go about making observations:

      1. The most important rule for you to keep in mind in observation is to be unobtrusive. That is, during the observation period, you should keep a low profile and stay in the background so the client will be as unaware of what you are doing as possible. You know from experience that if you see that someone is watching you, your behavior changes. This will also happen to the client if he realizes that you are deliberately observing him.

Note: Display transparency 100-3-14

      2. The observer should sit or stand quietly at the back or side of the room or area when recording observations. If this is not possible, then the recording session should be conducted in such a way that the client is not fully aware of what you are doing.

      3. If you are unfamiliar with the client to be observed, let him or her become familiar with your presence before you start observational recording.

C. When Should we Observe Behavior?

1. If the target behavior is one which you want to accelerate, you should set the observation period for the time or times when the target behavior can be expected to occur.

2. If the target behavior is a problem behavior which you want to decelerate, the observation period should be set for the time when the behavior can be expected to occur.

3. If there is no specific time period in which the target behavior can be expected to occur, you select a convenient time for observation.

D. Where Should you Observe Behavior?

1. You should conduct the observation period either where the behavior is now occuring or where the targeted behavior is projected to occur after the behavior modification program is terminated.

E. How Often Should you Observe Behavior?

1. A major concern in any attempt to measure behavior is whether the observations are accurate. That is, is the behavior stable over time.

2. The number of times a behavior occurs may change from day to day. If you measured the targeted behavior on one day, your count might be different from the count you would get on another day. That is, the behavior would be unstable.

3. If you are not careful, you could get a wrong count of how often a behavior is occurring and this could drastically alter the success of your intervention program.

4. In order to increase the stability of your observational procedure, it is generally recommended that you conduct a number of separate observation periods.

Note: Display transparency 100-3-15

F. How Long Should you Observe Behavior

1. A single observation period should generally not last over 30 minutes. However, this may vary from target behavior to target behavior.

G. What Tools do you Need for Observational Recording?

Note: Display transparency 100-3-16

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1. Any method of observation you use will require the following basic materials:

    a. Two sharpened pencils (one always seems to break)
    b. Record sheets
    c. Clipboard: Using a clipboard is always handy because it gives a hard surface to write on.

H. Frequently Used Types of Observational Recording

1. Event Recording

    a. As mentioned earlier during the class session, event recording is based on determining the frequency (how often) a specific target behavior occurs. It is nothing more than a simple tally system.
    b. You use the event recording system if the objective of observational recording is to obtain a simple frequency count.
    c. To use the event recording technique, the behavior must be brief, be about the same each time it occurs, and must have a definite beginning and ending.
    d. Need for a Data Sheet
        a. Prior to starting your observation session, prepare a data sheet with at least the following information on it: (Note: Your facility may have a special form for you to use. If so, use it.)

            1. Type of program
            2. Score
            3. Name of client
            4. Your name
            5. Observational Method
            6. Date
            7. Observation session number
            8. Observation session length
            9. Type of response
            10. Score key
            11. Leave space on the data sheet to provide this information:

                a. Task or response
                b. Frequency count
                c. Special remarks you want to make

Note: Display transparency 100-3-17

        b. An example of this type of data sheet is shown on the screen.
    e. Basic Procedure for Event Recording

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1. During the observation session, make sure you record each occurence of the behavior with a tally mark.

Note: Display transparency 100-3-18

2. If you are observing more than one behavioral component, you can increase the value of your frequency data sheet by substituting a coded letter for a tally mark. An example is illustrated on the screen.

3. Another way to make the event recording system more useful is to record the time the response occurs. In this procedure, you again use a coded letter instead of a tally mark to indicate that the behavior occurred.

Note: Display transparency 100-3-19

Additionally, you also record the time that the response occurred beside the coded letter, as shown on the screen.

Note: Display transparency 100-3-20

4. If you are working with a large number of clients, the procedures just described may be too time consuming. One way to simplify recording in such a situation is shown in the illustration in the screen. In this illustration, the client's entire waking period is divided up into hourly blocks. There are fourteen date entries on this sheet so it can be used for a two week period. However, it could have any number of date entries.

f. Advantages of Event Recording
Event recording is a simple procedure which will not interfere with any ongoing task the resident may engage in.

g. Disadvantages of Event Recording
   1. Event recording can be used with only a certain type of behavior
   2. Event recording does not estimate the length of time the resident is engaged in each occurrence of the behavior.
   3. Event recording requires total concentration in the part of the observer.

2. Duration Recording

a. All behavior is not suitable for event recording. For example, we sometimes want to know how long the behavior lasted or how long it has been since the behavior occurred. If this is your objective, you use another technique called duration recording. This method (duration recording) provides you with information about how long the behavior lasted. In duration recording, you maintain a continuous record of the time a client engages in a particular behavior.

b. When Should you use Duration Recording?

If the objective of the observational session is to determine the total amount of time a client engages in a particular behavior, you use duration recording. You also use duration recording if the target is to decrease the amount of time the resident engages in a problem behavior. Remember, however, that the target behavior must have definite beginning and ending and be of sufficient length that a measure can be taken.

c. Materials Required for Duration Recording

One of the following is required for duration recording:

Note: Display transparency 100-3-21

1. Stop Watch: If observations have to be accurate, a stop watch is essential and is also the easiest method to use.
2. Conventional Wrist Watch with a second hand.
3. Clock with a second hand.

d. Need for a Data Sheet

1. The data sheet for duration recording is prepared in much the same manner as the data sheet described for Event Recording. The only exception is that instead of labeling the response category with frequency, you label it with duration.

Note: Display transparency 100-3-22

2. An example of such a data sheet is shown in the illustration on the screen.

e. Basic Procedure used in Duration Recording

During the observation session, you start timing when the client begins to emit the target behavior. You stop timing when the client stops emitting the target behavior. This procedure is repeated for the entire observation period. If you are using a Stop Watch DO NOT RESET after each occurence of the target behavior. If you are using a wrist watch or clock, record the time when the behavior starts and the time when the behavior stops each time.

f. Variations of the Basic Procedure for Duration Recording

1. The basic procedure for duration recording can be modified to provide not only information about how long the behavior lasted but also information concerning how often the behavior occurred.

   a. In this case, if you are using a stop watch, RESET the watch after each occurence of the behavior and record the time on your data sheet. No modifications in procedure are needed if you are using a wrist watch or clock.

Note: Display transparency 100-3-23

   b. An example of this approach is provided in the illustration shown on the screen. Notice that now you can count not only how many times the behavior occurred, but also for how long.

g. Advantages of Duration Recording

1. Duration recording gives an accurate record of the amount of time a client engages in a target behavior.
2. Duration recording techniques can be modified to give information about both frequency and duration.

h. Disadvantages of Duration Recording

1. The method requires the undivided attention of the observer.
2. The method is usually used with only one client at a time.

3. Additional Types of Observation Recording Procedures

A. Continuous Recording
   a. In continous recording techniques, the observer attempts to tally every behavior that occurs during the observation period by writing it down on the record sheet.

1. When Do you Use Continuous Recording

   a. If the objective of the observation session is to determine the different kinds of behavior the client engages in, you should use continuous recording.

B. General Observational Rules for Continuous Recording

Note: Display transparency 100-3-24

During the observation session, you attempt to make a list of all the behaviors that the client exhibits. This can be most easily done by compiling a list of abbreviations for the various behaviors and then recording abbreviations in each time slot in which the behavior occurs.

C. Advantages of Continuous Recording

1. More than one behavior can be observed at a time in continuous recording.
2. Continuous recording is good for estimation of range of a client's behavior.
3. Continuous recording is good for establishing the relation between different behavioral sequences.

D. Disadvantages of Continuous Recording

1. Continuous recording is usually used with only one client at a time.
2. With continuous recording, it is usually difficult to record all behaviors the resident engages in .
3. Continuous recording is time consuming.
4. Continuous recording requires undivided attention of the observer.

4. Interval Recording

Interval recording involves dividing the observational period into short continuous time periods and recording whether or not the target behavior occurred during the interval being observed.

Note: Display transparency 100-3-25

A. When Should you Use Interval Recording

You can use interval recording if the objective of the observational session is to determine:

1. The number of target behaviors that occurred (Event Recording)
2. The duration of the target behavior (Duration Recording)

B. One of the following is Needed for Interval Recording:

1. Stop watch
2. Conventional wrist watch with second hand
3. Clock with second hand
4. Timed tape and cassette tape recorder.
   Where available, this is the method of choice. A timed tape is a plain cassette tape on which a signal indicating time intervals has been recorded. The tape is played during the observation session. When the observer hears the interval number on the tape, he knows to begin recording in the next time interval.

C. Procedure for Interval Recording

1. Determine the number of intervals into which you are going to divide the observation period. Each of the intervals must be the same.
2. During each time interval, record the number of times

that the client displays the behavior (Event Recording).

3. At the end of each time interval, start over again and repeat the event recording process.

D. Advantages of Interval Recording

1. Interval recording gives an estimate of both the count (Event Recording) and the duration (Duration Recording) of the target behavior.

E. Disadvantages of Interval Recording

1. Interval recording is a difficult procedure which requires the undivided attention of the observer. The observer should practice the technique until he is familiar with it before attempting to record the target behavior using the interval approach.

5. Time Sampling as an Observational Method

Note: Display transparency 100-3-26

A. In time sampling, observation sessions are divided into equal intervals. However, the target behavior is recorded only at the end of each interval. Time sampling is similar to Interval Recording except that it does not require continuous observation of the target behavior.

B. When Should you Use the Time Sampling Technique

You can use the time sampling technique if the objective of the observation session is to obtain the same measures as in interval recording except that:

1. You want to observe the target behavior over a longer period of time and/or
2. You are unable to give the amount of attention to observation required for Interval Recording.

C. Materials Required for Time Sampling Include one of the Following:

1. Stop watch
2. Conventional wrist watch with a second hand
3. Clock with a second hand
4. Timed tape and a cassette tape recorder

D. Procedure for Time Sampling

1. Determine the number of equal intervals into which you are going to divide the observation period.
2. Determine the amount of time during each interval that recording will be conducted.

3. Determine the place in each interval when recording will be conducted.
4. During each specified time period, record the number of times that the client displays the behavior (Event Recording).
5. At the end of each specified time period within each interval, cease to record the behavior even though it may continue to occur.
6. During the specified time period in the NEXT interval, repeat the procedure outlined above.

Note: Display transparency 100-3-27

E. Advantages of the Time Sampling Method

1. Time sampling gives an estimate of both the count (Event Recording) and the duration (Duration Recording) of the target behavior without requiring the undivided attention of the observer.
2. Observation sessions can be made longer in time sampling than interval recording without disrupting other scheduled duties of the observer.

F. Disadvantages of Time Sampling

1. Time sampling is a difficult procedure which requires good organization on the part of the observer. It is strongly recommended that the observer practice the technique until he or she is familiar with it before attempting to record target behaviors.

6. Placheck

A. In the placheck observational method, at specified intervals the observer counts as quickly as possible the number of clients engaged in the target behavior and then records the total.

B. When Should you Use the Placheck Method?
You use the placheck method if the objective of the observation session is to determine how many clients are engaged in a particular behavior.

C. Materials Required for Placheck Observational Recording

One of the following is required for the placheck procedure:

1. Stop watch
2. Conventional wrist watch with second hand
3. Clock with second hand
4. Timed tape with cassette tape recorder

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D. Procedure Required for the Placheck Approach

1. Determine the number of checks to be used during the observation period.
2. Determine at what time during the observation period each check will occur.
3. At the specified time during the observation period, count as quickly as possible how many individuals are engaged in the target behavior and then record the total.
4. Repeat this process for each check during the observation period.

E. Advantages of the Placheck Method

The placheck method can be used with more than one individual at a time.

F. Disadvantages of the Placheck Method

The placheck method does not give the record of the behavior of any one individual.

4. Organizing the Observational Data

Once you have collected your observational data, it must be organized in some way so that it can be interpreted. During this period, we will discuss how to organize the data obtained from Event and Duration Recording.

A. Organizing the Data from Event Recording

Note: Display transparency 100-3-28

1. For each observation session, ADD all of the tally marks together and obtain the total for that day. Write the total in large numbers on the data sheet and circle it.
2. The total number of tallies each day is a measure of the frequency of the target behavior for that particular observation session.
3. Repeat the addition process for each of the data sheets. Keep the total for each day SEPARATE.
4. Each of these totals will be used in charting the behavior.

B. Organizing the Data from Duration Recording

Note: Display transparency 100-3-29

1. For each observation session, ADD all of the times together and obtain a total for that day. Write the total in large numbers on the data sheet and circle it.
2. The total time each day is a measure of the duration of the target behavior for that observation session.

3. Repeat the addition process for each of the data sheets. Keep the total for each day SEPARATE.
4. Each of these totals will be used in charting the behavior.
5. If you use the variation of the duration procedure discussed, you can organize the frequency data by the event recording method and the time data by the duration recording method. These two sets of data can be charted together or separately.

5. Observational Recording: A Review

A. It is important that you determine the time of day when you will observe and count the target behavior. If it is a low frequency behavior, you may decide to count it throughout the day. If it is a high frequency behavior you may decide to count it for a limited period of time, e.g., four hours a day.

B. Observing and counting the behavior at the same time of day for the same length of time is essential. Otherwise, you may begin counting a behavior during the afternoon when it frequently occurs and then switch over to counting it in the morning when it seldom occurs. When this happens, you are apt to wrongly conclude that there has been a great change in the frequency of the behavior, when in fact there has been no such change.

C. During the initial stages, you should observe and count the behavior unobtrusively. The client should not know what you are doing. Otherwise he could deliberately behave so as to "foul-up" your observations.

D. Record your count of the target behavior systematically. Record the target behavior as it occurs. A written record is better than memory since it is easy for us to forget. A common means of recording the count is with check marks on a behavior record. The format is not the most important consideration. It is what you do with it that counts.

Other methods can be used to facilitate the recording process. Some of those involve the use of response counters worn on the wrist, grocery shopping counters, stop watches, and kitchen timers.

Note: Remind the student that different facilities may have special procedures or forms to be used for observational recording. If so, these should be used.

E. The Need for Daily Written Records

1. It is very important that daily written records be kept on each client undergoing behavior modification. The following information should be contained in these daily records: (1) the step-by-step progress each client is making towards mastery of the target behaviors, (2) the type of reinforcement

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being used, along with a notation concerning when the reinforcement is changed or faded, (3) a general description of each day's events, coupled with any pertinent facts or information about the client, (4) the initial and current operant levels and (5) the worker's evaluation of daily progress which the client has made.

2. If adequate data is kept on each client, the successes and failures can be charted so that overall progress can be noted. The written records can also be passed along to other staff members who are concerned with the care and training of the client, so that everyone's efforts can be coordinated to assure consistency.

3. As mentioned earlier, the format in which you obtain the data suggested above is not the most important consideration. What is important is that you obtain the data in a systematic fashion. A standard format, if one is available at your facility, can help you do this. If a standard daily record has not been developed, perhaps you can offer suggestions for one to your facility behavior modification committee.

I. Determining the Baseline

A. What is a baseline?

An important concept in the behavior modification approach concerns development of the baseline.

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1. The term baseline describes the frequency or rate of occurrence of the target behavior during the initial period of observation under normal, everyday state school or hospital conditions.

2. The baseline represents a measure of the number of times the behavior occurs under the "old" system of managing the client's behavior.

3. Baseline data becomes the standard or norm you use to judge whether or not the frequency of the behavior is increasing or decreasing under your intervention strategy.

4. The term intervention is used to describe a period of several weeks during which you will seek to implement on your ward or dormitory the new techniques or interventions which you will have learned in the behavior modification course you are taking.

Note: Display transparency 100-3-31

5. For example, in the illustration shown on the screen, compared to the baseline, the total amount of time John spent paying attention in class has increased considerably. This would suggest that your intervention--whatever it might be--works!

B. Sources of Information for Baseline Data

1. Since the client's current behavior is the basis upon which we need to base a behavior modification program, information containing answers to such questions as "Which behaviors need to be developed or reinstated?" and "Which need strengthening and which need to be extinguished?" must be obtained. Such information constitutes the baseline, which we defined a moment ago.

2. Baseline data can be derived from various sources such as:

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   a. Client's clinical records
   b. Interviews with clients
   c. Interviews with persons who have at any time created or helped with the treatment of the client
   d. Direct observation of the client's behavior

3. The client's clinical records may contain entries of direct patient observation. While the clinical record usually gives information in the form of impressionistic comments, it may nevertheless provide tentative focal points for treatment planning. The clinical record might indicate that the patient is frequently depressed. However, systematic observation should be undertaken to verify or refute this impression.

   The medical aspect of the clinical record should also play a role in treatment planning. This is because behavioral therapy should never be attempted if there is anything in the client's medical history that is clearly the cause of an undesirable behavior. Attention should also be given to the client's drug history. Some tranquilizers may cause side effects which are similar to behaviors associated with institutionalization.

Example: A program to combat a client's continuous pacing should not be undertaken without making sure that this behavior is in no way associated with the kind of drug the patient is on. If it is, merely changing to a new drug may be all that is needed to extinguish the undesirable pacing behavior.

4. Interviews with the client are a valuable source for baseline information. This is because the patient's behavior during an interview often alerts the interviewer to particular behaviors which constitute evidence of a psychotic state, if you are dealing with psychiatric patients.

   a. Many times, interviews can provide information about possible reinforcers. To illustrate, the patient's attitude toward visits from his family and friends may not appear on his clinical record but can be brought out in an interview. Also, his smoking habits, desire for sweets, and interest in food can often be ascertained.

We will soon seen how important it is to know what is reinforcing for a given client.

b. An interview can also help in developing general directions which might be used in the behavioral treatment program.

Example: During an interview preparatory to participating in a behavioral treatment program, a client stated: "I'm no good. I can't do anything right. You can't expect me to do anything, because I'm a loser. I got this way because I masturbated and that made me retarded."

Obviously, comments such as these combined with other baseline information, can be useful in arriving at a treatment decision. This particular client would probably be placed on a program which required work tasks of increasing responsibility, so that he could be helped in overcoming the "loser" attitude.

4. Interviews with other staff members (such as psychiatrists, psychologists, social workers, and nurses) who have previously been in contact with the care or treatment of the client can help provide answers to questions such as the following:

   a. Does the client work? Too much? Too little?
   b. Does he like to eat? What kind of table manners has he?
   c. Does he like to stay in bed all day? To sit? To pace?
   d. Is he willing to follow instructions?
   e. How does he get along with other clients?

   Of course, any information regarding the client's behavior must be verified through direct observation. However, the comments of those who have worked with the client can be helpful in suggesting behaviors that may need to be considered in a treatment plan.

5. For obvious reasons, data from direct observation of a client's behavior should be the primary source for baseline information.

   a. Properly made, direct observation of a client's behavior provides objective data which most clearly shows a client's behavioral strengths and weaknesses.

   b. Remember that some clients who have a prior history of institutionalization may also have previous records which are based on direct observation of their behavior. If so, you can compare this information with baselines which are taken at the time of readmission. This could be very helpful when you are making up a treatment plan.

6. Obtaining Baseline Data

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One of the most widely used methods for obtaining reliable data in a behavioral program is time sampling. This procedure is accomplished by making observations at stated intervals over a given period of time.

a. In a typical behavior modification program, once criteria have been established concerning exactly what is to be observed and under what conditions, a staff member makes an observation at a definite period--such as each half hour between 6:00 AM and 9:30 PM. By the end of each day then, thirty notations have been entered usually on a standard form. Of course, there can be many variations of the interval used.

b. As we discussed earlier, many notation systems can be used in recording baseline data. Consider this simple method:

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1. Use a standard form such as the one shown on the screen. The form contains instructions and symbols to be used, to insure everyone understands what is expected.
2. Suppose that a client is being observed for the behavior "lying on bed" and that this behavior has been defined as "patient is on his own bed in a prone position--one which would normally be used for sleeping."
3. Utilizing the time sampling method which we discussed earlier, the staff member looks at the client's bed each half hour. If the client is indeed lying on his bed, the observer enters this information on the observation form, marking a plus sign after the appropriate time. If the client is not lying on bed a minus mark is entered.
4. Each day's data are easily summarized by counting the number of +'s and the number of -'s and entering the totals in the appropriate blanks at the bottom of the form.
5. For the client shown on the slide, there were twenty pluses and ten minuses. When the performance and needs of this particular client are subsequently considered, these figures provide an accurate, quantitative basis for decision making with respect to treatment.

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6. Time sampling can be used for recording more complex behaviors than a simple observation such as "lying on bed." For a record of a client's general ward or dormitory behavior, instructions must be prepared which define the behaviors under observation, and a time interval set. For observation of complex behavior, the observer may be required to write a brief description of what the client is doing as well as using a number and letter code to enter frequent behaviors. A sample of one more elaborate record form is shown on the screen.

Note: Display transparency 100-3-34

a. In this system, the observer's notations includes the number symbol of one of the following mutually exclusive behaviors.

1. Walking
2. Running
3. Standing
4. Sitting
5. Lying Down

b. In general, behaviors on a ward or dormitory can be classified under one or another of these categories, and being engaged in one mutually excludes the others.

c. A client can engage in certain responses concurrently. For example, he can be both sitting and smoking, or he may be standing and eating, or lying down and talking, or running and screaming.

d. In a system of collecting data by time sampling, the observer is instructed to watch the client for one second and then enter a coded notation on the record sheet in the appropriate hour blank. If the client is simply standing, just this fact and the location where the behavior occurred is recorded.

Example: Consider the entry for 0630 on the slide you see on the screen. It tells you that the client was standing in the lavatory grooming. The entry for the observation "standing while working on assigned task in the dining room" is shown at 0900. The notation "unavailable" indicates that the client could not be found. Of course, if an observation is missed, no entry is made. With

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every use of the symbol 19, the "other" observer would be expected to add a brief word description. The entry "other" by itself is meaningless.

e. You can also see that the form includes instructions for the observer to particularly watch out for certain behaviors. These are listed in the upper left hand corner of the form.

f. If this is the first study of a patient's general behavior (i.e., is a baseline study), the person making the observations enters a check mark after the item "baseline." If it is a follow-up study the appropriate number is circled. In the following section, the number of follow-ups made generally will depend on two factors: (1) the needs of the clients and (2) the ratio of personnel to clients.

g. Follow-up observations are made in order to determine a client's progress under treatment. Such observations provide feedback and also give a quantitative basis for making changes once treatment has begun.

6. Format Considerations

There are many formats you can use to record your baseline and follow-up observations. We have discussed several. This is not to say, however, that they are the best for you to use at your particular facility. It is probable that your facility Behavior Modification Committee will develop standard formats for you to use, in the event they have not done so already.

7. Baseline Considerations - A Review

A. Definition of Operant Level and Baseline

1. Before you begin a behavior modification program, the first step is to determine the present level of the behavior. This is called the operant level.

2. The record you make of the operant level of the behavior is called a baseline.

3. The most effective way to represent a baseline is with a graph.

4. The main reason for obtaining a baseline is to determine whether the behavior modification program is having any effect on the target behavior. Unless a baseline is obtained, you could easily assume that a change has occurred in the target behavior when no change has in fact occurred.

B. Baseline Procedures

1. Observe and record the target behavior for a number of sessions, using a record form similar to the one described in our class

discussion.

2. Chart the behavior after each session, making a dot where the behavior and time factor intersect.

3. Connect the dots with a ruler.

4. The length of the baseline phase of the program is determined by the stability of the target behavior during the observation sessions.

C. Baseline Stability

1. Some kinds of target behaviors will change more than others. The amount of spontaneous change in the target behavior determines its stability.

2. If the frequency of a behavior changes drastically from one observation period to the next, the behavior is not very stable. If the frequency of a behavior rarely changes from one observation to another the behavior is said to be very stable.

3. If the target behavior begins to change or become unstable during the baseline phase of the intervention procedure, wait until the baseline becomes stable before implementing the intervention.

4. The best way to tell if a baseline is stable is to look at the baseline graph. If the baseline is not fluctuating very much or is fluctuating within a certain range, it is usually safe to assuming that the baseline is stable. If so, you can proceed with the training program. If the baseline is fluctuating unpredictably, you should wait until the baseline stabilizes before proceeding.

5. Most baselines should be gathered over a number of sessions. However, this is not a hard and fast rule. The duration of the baseline phase of the intervention program should be determined by the stability which is characteristic of the target behavior.

6. If you are unsure regarding whether or not your baseline is stable, consult one of your facility behavior modification resource individuals.

J. Summarizing and Graphing

A. Once you have accumulated information on a client's behavior, you will have to make some sense out of it. For example if you have figured the rate of Paul's aggressive behavior over a period of three weeks, you will have 21 rates, one for each of the 21 days that you observed him. It is often difficult to analyze so much data. One way to reduce such large amounts of data to a simpler form is to graph it.

1. Graphs are useful for displaying behavioral observations so as to provide an overall veiw of when and how frequently a target behavior occurs.

2. Graphing will let you know when you have reached the target behavior goal and will also enable you to quickly troubleshoot your intervention program if something starts to go wrong.

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B. Description of a Graph

1. Graphs are usually drawn between two lines that are joined to form an "L" as shown on the screen.

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2. The line on the left side of the page and going UP the side of the page is used to indicate the RATE or AMOUNT of behavior. This is the vertical axis or ordinate.

3. The line at the bottom of the page and going ACROSS the page is used to indicate the time when the behavior occurred. This is the horizontal axis or abscissa

4. Each entry on a graph can be considered a dot which indicates:

   a. The amount or rate of behavior and,
   b. The time that the behavior occurred

C. Steps in Making a Simple Graph

1. When making a simple graph you will to make two major decisions:

   a. How long to make each of the graph lines
   b. What to label them

2. Labeling the Graph

   a. Each graph label should be as short as possible while still describing the numbers you will put on it.
   b. The line at the bottom of the graph (the abscissa) is usually simple to label. Select a label that indicates the time factor that you are recording, such as observation sessions, training sessions, days, weeks, hours, etc.

3. The line at the side of the graph (the ordinate) is somewhat harder to label. In general, you should use a word or words that describes the target behavior being recorded. From your behavioral definition, the words describing what the client is DOING usually works well.

D. Determining the Length of the Graph Lines

1. Determining the size of the graph is usually the most difficult step in making a graph.
2. The line at the bottom of the page and going across the page can be left open ended. After each observation session simply label another point on the graph with the session number.
3. The line on the side of the page and going up the page is more difficult to handle.
    a. In general, if you are using an accelerator program, the criterion for terminating the program can be used to determine the height of the line going up the side of the page.
    b. In general, if you are using a a decelerator program, the observation session with the largest number of problem behaviors can be used to estimate the height of the line going up the side of the page.

E. Charting

a. In order to chart or make entries on a graph, you must do three things:

    1. Find the correct time line. This should correspond to the observational session, training session, day, week, hour, etc.
    2. Total the number of target behaviors observed (or the time).
    3. Place a dot on the graph where the time line and the behavior line cross.

b. The charting procedure is very simple. You simply repeat this procedure described above for each observational session.

c. Last, you connect the dots with a ruler.

F. Graphing--A Review

a. Transfer the daily count of the target behavior to a master graph which will allow you to see the fluctuations in the behavior.
b. The horizontal or x axis of a graph is called the abscissa. The vertical or y axis is called the ordinate.
c. Plot time (days of the month, observational period, hours, etc.) along the horizontal axis or abscissa.
d. Plot your count of the target behavior in terms of number of responses, duration of the response, or number of intervals, etc. along the vertical axis or ordinate.

G. Perhaps one of the most important contributions of the behavior modification approach is its emphasis on counting or tracking behaviors. This is because, with an actual count and a graph of the behavior, you are in a much better position to determine whether or not the intervention you have selected is really working. You can readily assess whether or not the behavior is changing, which is your aim. With this tool you can try any intervention--positive reinforcement, fines, withdrawal of privileges, etc.--and assess whether it is having an effect in terms of actually changing the client's target behavior. Analysis of the information graphed will permit you to make this determination quite readily--particularly if you place observations from all three phases (baseline, treatment and follow-up) on the same graph.

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As you can see from the information on the slide, it is easy to compare what happened to the client's behavior during the baseline phase, during treatment, and follow-up. In this case, where aggressive behavior has been graphed, the intervention used worked. There has been a decrease in the display of aggressiveness. It is helpful for interpretation to divide the various phases with heavy dotted lines as shown on the slide.

K. Why Use Such a Mechanical and Structured Approach?

There are several reasons for having to actually mechanically count and graph behavior.

1. First of all, you are being taught new skills in behavior management. You will learn these skills much better if you have to work at implementing them in a systematic manner than if you just try to apply them in a haphazard fashion.

2. Secondly, actually counting the behavior forces you do attend more closely to the client's behavior.

3. Thirdly, having an actual count of a client's target behavior will help you correct your perception of how bad or how good it actually is. Because we often tend to have strong emotional reactions to our client's behavior, we may tend to overestimate its frequency. These estimates get corrected with the actual counting procedure we have been discussing.

4. Also, graphing the behavior will allow you to visually assess whether your intervention is actually working. When the intervention does work and you are able to see it, your particular use of the methods and principles which brought about the change will be greatly reinforced and strengthened. In essence, your behavior also becomes "modified."

L. Reliability Considerations

1. The soundness and effectiveness of a behavior modification program depends upon the reliability of its measurement procedures. If the

measurement procedures which are used are not reliable, it is possible for the client's behavior to remain stable while the only behavior changes recorded are those resulting from observer bias. Similarly, it is possible for the client's behavior to change while the record remains unchanged, because the measurement procedures are unreliable.

2. Reliability checks using a second observer are sometimes used to provide increased confidence that it is actually the client's behavior and not the observers recording of the client's behavior which changes from one experimental condition to another. The degree of agreement between the resulting sets of observations can be indicated in one of several ways:

   a. Graphs can be used, with the second observer's recording indicated by x marks or some other symbol to distinguish it from the primary observer's record.

   b. The degree of correspondence can also be expressed in numerical terms. For example, in interval or time-sample recordings, the accepted procedure is to divide the number of instances of agreement on the observer records by the total number of agreements plus disagreements (i.e., the total number of recording opportunities). The quotient is then multiplied by 100, with the resulting figure being the percentage of agreement between the observers.

$$\frac{\text{agreements}}{\text{agreements} + \text{disagreements}} \times 100 = \%\text{ of agreement}$$

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   c. In the sample, observer's records shown on the screen, there was agreement on all the time samples except the 6th. Therefore, the observers agreed 9 out of the 10 possible times. The percentage of agreement was 90.

$$\frac{9}{10} \times 100 = 90\%$$

   d. In dealing with event recording, duration recording and direct measurements, you can determine agreement by dividing the record of the observer with the lower figure by the record of the observer with the higher figure. Thus, if one observer records that Hank aggressed against others nine times during the morning, and if another observer record shows that he did so 11 times, the percent of agreement would be:

$$\frac{9}{11} \times 100 = 81.8\%$$

   e. Obviously, the nearer the observational records are to perfect agreement, the nearer they will be to 100%. Generally, ninety percent or above is considered as desirable. However, 80% agreement or better is sometimes acceptable for many types of observational recordings. While no absolute standards have been established, the percentage of agreement of records gives some measure of the reliability of the recording procedures used and should be given serious attention.

M. Practical Exercise

1. Show videotape 100-3 entitled "Observation and Measurement in Behavior Modification".

2. Have the students practice observation and measurement skills by completing the exercise contained in the videotape.

Note to Instructor: If desired, administer Quiz 100-3 at this time. Use the quiz results as a basis for clearing up misconceptions and reteaching material the students failed to grasp during the course of instruction.

III. SUMMARY

During this period, we discussed the various procedures used in observing and recording behavior, as part of a behavior modification program. We saw that the very first step in starting a program to change a client's behavior is careful and controlled observation of the behavior as it is presently occurring. We have to observe what is going on now before we can set behavior goals or make plans for achieving them. In order to make these observations as accurate, objective and useful as possible, we noted that we have to specify exactly what the behavior is we are going to record or count. We also stressed that--in order to understand all the conditions affecting a given behavior we must determine what happens just before and immediately following behavior. We called this the ABC's of behavior. What we are looking for is information concerning what "sets" the behavior off and what happens as a result of the behavior. We also saw that one of our principle concerns is obtaining baseline data. We get this by adding up behavioral occurrences, so as to get a count of how much the behavior occurs under regular conditions for a given time period. The baseline tells us where we are beginning with the behavior we are dealing with and how serious it really is.

In our discussion, we noted that a target behavior can be counted in several ways. The methods we discussed included:

1. Frequency counting which means that you count the number of times the behavior occurs within a given period of time.

2. Duration counting, which means that you count the length of time the behavior lasts.

3. Interval counting, which means that you count intervals of time in which the behavior occurs at least once.

We emphasized in our discussion that it is very important that you determine the time of day when you will observe and count the client's behavior. If it is a low frequency behavior, we saw how you may want to count it throughout the day. If it is a high frequency behavior, we observed that you may decide to count it for a limited period of time, e.g., two hours a day. We emphasized that observing and counting the client's behavior at the same time of day for the same length of time is crucial. Otherwise, we saw that we may begin counting a behavior during the afternoon when it frequency occurs and then switch to counting it in the morning when it seldom occurs. If we let this happen, we are apt to wrongly conclude that there has been a great change in the frequency of the behavior, when in fact this is not the case.

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Programmed Student Handout 100-3
Code 76-8

Texas Department of Mental Health Mental Retardation

Observation and Measurement in Behavior Modification

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame."

2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.

3. If your answer to the question was correct, you proceed on to the next frome. However, if you selected a wrong response, you review before proceeding.

4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

In our earlier lesson we discussed some of the principles of behavior that can be used to bring about changes in behavior. Our principal concern now will be observation and measurement of behavior. These are important considerations because the very first steps in implementing any program to change behavior involve (1) careful and controlled observation of the behavior as it is presently occurring, (2) measuring the behavior in terms of its frequency of occurrence, and (3) maintaining a careful record of the observations we make. This is necessary so that we will have a point of reference from which we can analyze our progress in accomplishing the desired behavioral change.

What are the first steps in implementing any program to change behavior?

1. ____________ the behavior as it is presently occurring. observing

2. ____________ the behavior in terms of frequency of occurrence. measuring

3. Maintaining a careful ____________ of the observations made. record

Before we can do a good job of observing and recording behavior, we really need to get clear just what behaviors we are interested in. In many cases, it is helpful to analyze the client's behavior in terms of these categories: excesses, deficits, and assets.

When we observe and record client behavior, it is helpful to analyze it in terms of which categories?

1. ____ excesses

2. ____ deficits

3. ____ assets

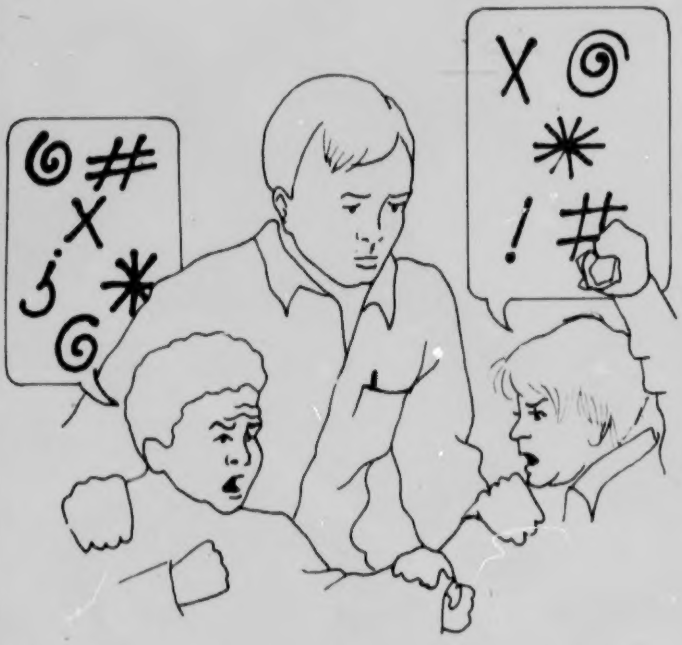


Figure 1. Behavioral excesses are behaviors which the client does too often, too much, or at the wrong times.

An example of a behavioral excess would be too much name-calling or too many derogatory remarks made to other clients or staff members. As you might imagine, your goal in an intervention program would be to weaken such undesirable behaviors.

Hoarding of items by a client (such as saving all manner of junk items) would be considered as a behavioral ____________. During an intervention program, your aim would be to ____________ such behavior.

excess
weaken

Behavioral deficits are behaviors which the client fails to do as often as you would like, as much as you would like, or when you would like, such as the failure to perform assigned chores. During an intervention, you would try to strengthen the behaviors you desire to see more of.

A behavioral deficit is a behavior which the client ____________ to do as often, as much as, or when you would like.

fails

Behavioral assets are those client behaviors which you and others like, such as cooperative interaction with other clients and the staff. The goal of a behavioral intervention would be to maintain these client behaviors and to increase the overall number of behaviors which can be called assets.

Behaviors which you desire to see maintained are called behavioral ____________.

assets

The Need to be Specific When Analyzing and Defining Behaviors.

Workers in the state schools and hospitals often describe their clients in such relative terms as "angry," "happy," "uncooperative," "sullen." In doing a behavioral analysis, you need to ask yourself the question, "What does the client actually do? If he is an angry client what does he do when he is in the state which you call "angry." Does he yell, scream, hit, poke, slam doors, run away, or what? These represent behaviors which you can actually observe. It is very important that as you do the behavior analysis you specify the behavior so that it is observable and countable.

In a behavior analysis, you must specify behavior so that it is ____________ and ____________

observable
countable

There are times when you will over or underestimate the frequency of occurrence of a particular behavior because of your emotional reactions to it. You need to keep in mind that emotion can color your perception of the behavioral problem and make it more difficult for you to be realistic. If you estimate the frequency of the behavior's occurrence and then compare it with the actual count of the behavior during baseline determination, this tendency will become obvious. This self-check procedure will help you correct your "misperception" tendencies.

How can you check on the accuracy of your perception of a client's behavior?

____

____

____

estimate the number of times the behavior occurs and then compare it with an actual count.

Setting Goals for the Target Behaviors

Setting goals helps protect the client from your changing expectations. Sometimes when you begin to see behavior change, you begin unintentionally to raise your standards for acceptable behavior. In such a situation, the client can never win, and your intervention program will probably eventually fail.

Why should you set goals for target behaviors?

____

____

To protect the client from your changing expectations

You can set goals for the target behaviors in these two ways:

1. First, you should decide whether you are trying (a) to decrease a client's excess behavior, (b) to increase a deficit behavior, or (c) to maintain an asset or appropriate behavior.
2. Secondly, you should determine as your goal a level of frequency or duration for the target behaviors so that when that particular level is reached you will judge the behaviors to be acceptable. In other words, the client will have reached the goal.

QUIZ: The goal you set for John is to increase his performance of routine self-help tasks to the level where he is doing four out of five of such tasks daily. When he has done so, you judge his behavior in this connection to be acceptable.

_____ True _____ False

True

The Importance of Observation

In order to determine what is cueing and maintaining the client's target behavior, it is important that you pay attention to events which both precede and follow the behavior. People call this a situational analysis.

In a situational analysis, you pay attention to events which both ____________ and ____________ the behavior.

precede
follow

There are three parts to a situational analysis. These are the antecedent of the behavior, the behavior itself, and the consequence of the behavior. All involve observation. When you thoroughly understand the relationships between these three parts, you will know how to change a client's behavior. Some people call these the ABC's of behavior.

The three parts of a situational analysis are:

1. ________________________________
2. ________________________________
3. ________________________________

1. antecedent of the behavior
2. the behavior itself
3. the consequence of the behavior

The ABC's of a situational analysis are as follows:

A stands for the antecedent or the stimulus situation which precedes the behavior. The question you ask in order to discover the antecedent is: "What happened just prior to the occurrence of the behavior?"

B stands for the behavior. It requires a brief description of the actual behavior as it occurred.

C stands for the consequence which immediately follows the behavior. The question you ask yourself to determine the consequence is: "What happened immediately following the occurrence of the behavior?"

The stimulus situation which precedes a behavior is called the ____________.

antecedent

What happens immediately following the occurrence of a behavior is called the ____________.

consequence

Observing and Recording Behavior

Assume that we have selected the target client, prepared a behavior analysis, selected target behaviors, estimated their frequency, and set the goals. We are now ready to operationalize the target behaviors and take a look at some of the steps which are necessary for implementing an intervention program.

"Operationalizing" target behaviors means that the behaviors must be defined in such a way that they can be observed and counted.

When we operationalize target behaviors we define them in such a way that they can be ____________ and ____________.

observed
counted

To "operationalize" a target behavior we must do two things:

(1) Develop a detailed description of the topography or "shape" of the target behavior, and

(2) Make a decision about how the behavior is to be counted.

When we "operationalize" a target behavior we ____________ it in detail and decide how it is to be ____________.

describe
counted

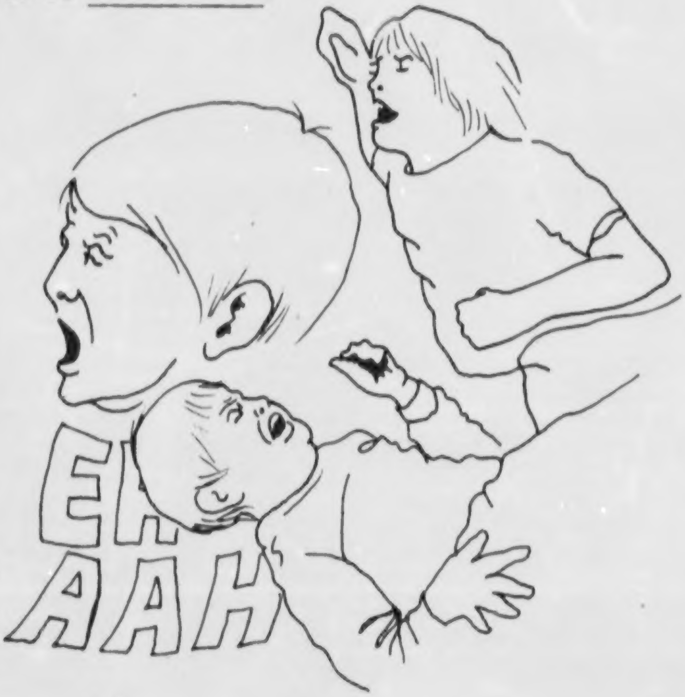


Figure 2. Temper Tantrums as a Target Behavior to be Weakened.

Assume that you have chosen temper tantrums as a target behavior which you want to weaken. In giving a detailed description of temper tantrums, you would describe the physical actions of hitting people, falling on the floor, kicking legs and flailing arms and the verbal activity of yelling, crying and shouting. Then, when some (or all) of these things occur in combination, you would label the behavior that occurred a temper tantrum and proceed to count it.

Counting Behavior

Counts are usually given as a RATE, as - for example - the instances of ritualistic behavior shown by a client per hour per day. The advantage of rate measures is that they make your counts comparable from one time to another. A rate is computed by dividing the number of occurrences of the behavior by the amount of time the behavior was observed as follows:

$$\text{rate} = \frac{\text{count of behavior}}{\text{time observed}}$$

$$\text{rate} = \frac{\underline{\hspace{3em}}\text{ of behavior}}{\underline{\hspace{3em}}\text{ observed}}$$

count

time

A target behavior can be counted in several ways:

1. Frequency counting means that you count the number of times the particular behavior occurs within a given period of time.
2. Duration counting means that you count the length of time the particular behavior lasts.
3. Interval counting means that you count intervals of time in which the particular behavior occurs at least once.

QUIZ:

1. Frequency counting means that you count the ____________ of times the behavior occurs within a given period of ____________.

   1. number
   time

2. Duration counting means that you count the ____________ of time the behavior ____________.

   2. length
   lasts

3. Interval counting means that you count ________ of time in which the behavior occurs at least ________.

3. intervals
once

Observing Target Behaviors: The Need for a Systematic Approach

The effectiveness of any behavior modification approach depends upon careful observation and precise measurement of the client's behavior, a process some refer to as observational recording. We can say that observational recording occurs when an observer looks at another person's behavior and makes a record of what he sees as it occurs.

What is observational recording?

____

____

looking at another person's behavior and making a record of it as it occurs.

One of the most important things for you to keep in mind while observing is to be unobtrusive. That is, keep a low profile and stay in the background so the client will be as unaware of what you are doing as possible. You know from your own experience that if you know that someone is watching you, your behavior changes. This will also happen to the client if he realizes that you are deliberately observing him.

In observing, keep a ____________ and stay in the ____________.

low profile
background

You should sit or stand quietly at the back or side of the room or area when recording observations. If this is not possible, then the recording session should be conducted in such a way that the client is not fully aware of what you are doing. Also, if you are unfamiliar with the client to be observed, let him or her become familiar with your presence before you start observational recording.

Conduct your observations in such a way that the client is not fully ____________ of what you are doing.

aware

When Should You Observe Behavior?

1. If the target behavior is one which you want to accelerate, you should set the observation period for the time or times when the target behavior can be expected to occur. 2. If the target behavior is a problem behavior which you want to decelerate, the observation period should be set for the time when the behavior can be expected to occur. 3. If there is no specific time period in which the target behavior can be expected to occur, you select a convenient time for observation.	
If your interest is in a target behavior you want to accelerate or decelerate, you set your observation period for the time when you ____________ the target behavior to ____________.	expect occur
You should conduct the observation period either where the behavior is now occurring or where the targeted behavior is projected to occur after the behavior modification program is terminated.	
Where should your observations be conducted? ____ ____	Where the target behavior is now occurring or is projected to occur after the intervention has been terminated.
A major concern in any attempt to measure behavior is determining whether or not the observations are accurate. That is, you need to know if the behavior is stable over time. This is important because the number of times a behavior occurs may change from day to day. If you measure a target behavior on one day, your count might be different from the count you would get on another day. The behavior would be unstable.	
A major concern with respect to your observations is determining if the observed behavior is stable over ____________.	time
If you are not careful, you can easily get a wrong count of how often a behavior is occurring and this in turn can drastically alter the success of your intervention program. One way that you can increase the stability of your observational	

procedure is to conduct a number of separate observation periods.

The use of a number of separate observation periods will help you to increase the ____________ of your observational procedure.

stability

Frequently Used Types of Observational Recording

Event Recording

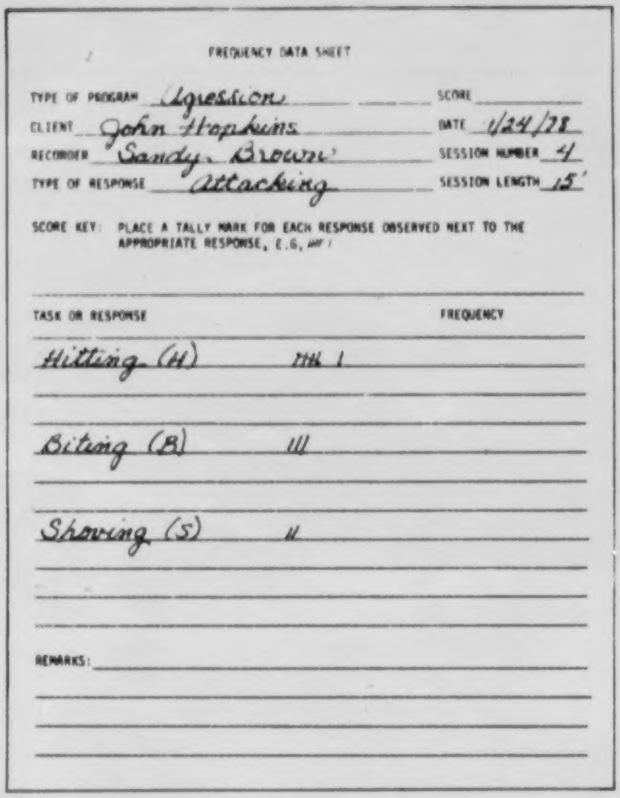
1. As mentioned earlier in the handout, event recording is based on determining the frequency (how often) a specific target behavior occurs. It is nothing more than a simple tally system.

2. You use the event recording system if the objective of observational recording is to obtain a simple frequency count.

3. To use the event recording technique, the behavior must be brief, be about the same each time it occurs, and must have a definite beginning and ending.

4. Need for a Data Sheet

    a. Prior to starting your observation session, prepare a data sheet with at least the information shown in Figure 3.



FREQUENCY DATA SHEET

TYPE OF PROGRAM Agression SCORE

CLIENT John Hopkins DATE 1/24/78

RECORDER Sandy Brown SESSION NUMBER 4

TYPE OF RESPONSE Attacking SESSION LENGTH 15'

SCORE KEY: PLACE A TALLY MARK FOR EACH RESPONSE OBSERVED NEXT TO THE APPROPRIATE RESPONSE, E.G, 𝍸 I

TASK OR RESPONSE	FREQUENCY
Hitting (H)	𝍸 I
Biting (B)	III
Shoving (S)	II

REMARKS:

Figure 3. Sample Data Sheet (Note: Your facility may have a special form for you to use. If so, use it.)

QUIZ on Event Recording

1. You use event recording to determine the ____________ of a specific target behavior.

frequency

2. To use event recording, the behavior must be ____________, must be about the same each time it occurs, and must have a definite ____________ and ____________.

brief
beginning
ending

Advantages of Event Recording

Event recording can be used with only a certain type of behavior.

Event recording does not estimate the length of time the client is engaged in each occurrence of the behavior.

Event recording requires total concentration on the part of the observer. Event recording can be used with only certain types of behavior. _____ True _____ False	True
A disadvantage of event recording is that it does not estimate the length of time the client is engaged in a behavior. _____ True _____ False	True
Duration Recording As we said above, behavior is not suitable for event recording. For example, you sometimes want to know how long the behavior lasted or how long it has been since the behavior occurred. If this is your objective, you use another recording technique called duration recording. This method provides you with information concerning how long the behavior lasted. In duration recording, you maintain a continuous record of the time a client engages in a particular behavior.	
If you want to know how long a behavior lasted or how long it has been since a behavior occurred, you use the ____________ recording technique.	duration
When Should You Use Duration Recording? If your aim is to determine the total amount of time a client engages in a particular behavior, you use duration recording. You would also use duration recording if your aim is to decrease the amount of time the client engages in a problem behavior. Remember, however, if you are going to use duration recording the target behavior must have a definite beginning and ending and be long enough for a measure to be taken.	
To determine the total amount of time a client engages in a particular behavior, you use ____________ recording.	duration
To use duration recording, the target behavior must have a definite ____________ and ____________	beginning ending

Basic Procedure Used in Duration Recording

In duration recording, you start timing when the client begins the target behavior. You stop timing when the client stops the target behavior. This procedure is repeated for the entire observation period. If you are using a wrist watch or clock, record the time when the behavior starts and the time when the behavior stops each time. If you are using a Stop Watch DO NOT RESET after each occurrence of the target behavior.

In duration recording, you start timing when the client ____________ the target behavior. You stop timing when the client ____________ the target behavior.

starts
stops

Advantages of Duration Recording

1. Duration recording provides an accurate record of the amount of time a client engages in a target behavior.

2. Duration recording techniques can be modified to provide information about both frequency and duration.

Disadvantages of Duration Recording

1. Duration recording requires the undivided attention of the observer.

2. Duration recording is usually used with only one client at a time.

Additional Types of Observation Recording Procedures

Continuous Recording

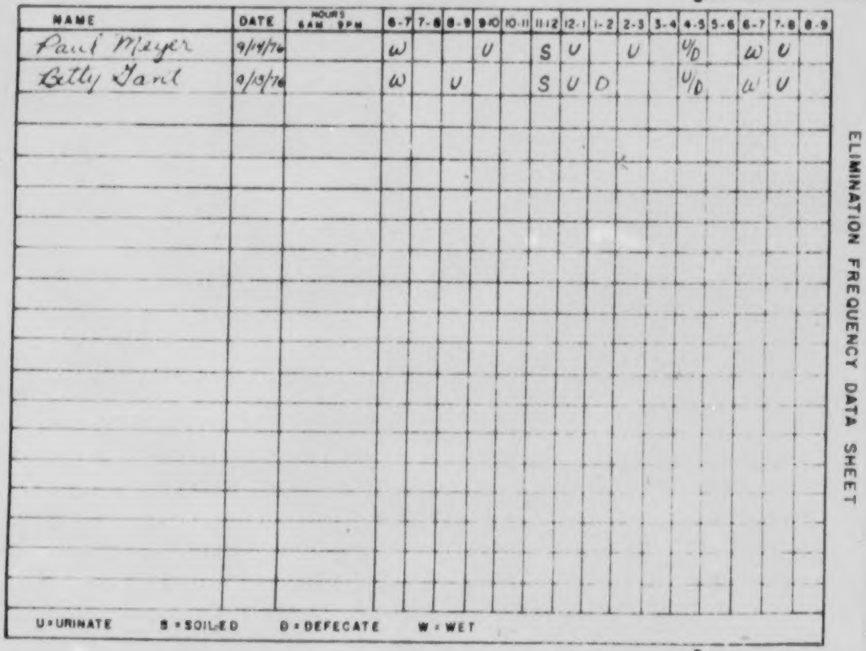
In continuous recording techniques, you tally every different kind of behavior that occurs during the observation period by writing it down on the record sheet.

If the objective of the observation session is to determine the different kinds of behavior the client engages in, you should use continuous recording.

_____ True _____ False

True

During the observation session, you make a list of all the behaviors that the client exhibits. This can be most easily done by developing a list of abbreviations for the various behaviors and then recording abbreviations in each time slot in which the behavior occurs (See Figure 4).



ELIMINATION FREQUENCY DATA SHEET

NAME	DATE	HOURS 6AM 9PM	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
Paul Meyer	9/14/76		w			U		S	U		U		U/D		w	U	
Betty Jane	9/13/76		w		U			S	U	D			U/D		w	U	

U = URINATE S = SOILED D = DEFECATE W = WET

Figure 4. Using abbreviations will help you in using the continuous recording technique.

Advantages of Continuous Recording

1. More than one behavior can be observed at a time in continuous recording.

2. Continuous recording is good for estimation of range of a client's behavior.

3. Continuous recording is good for establishing the relation between different behavioral sequences.

Disadvantages of Continuous Recording

1. Continuous recording is usually used with only one client at a time.

2. With continuous recording, it is usually difficult to record all behaviors the client engages in.

3. Continuous recording is time consuming.

4. Continuous recording requires undivided attention of the observer.

Indicate which of the following statements are true and which are false.

1. When you are using continuous recording, usually you can observe only one client's behavior at a time.

_____ True _____ False

True

2. When estimating the range of a client's behavior, continuous recording techniques are used.

_____ True _____ False

True

3. Disadvantages of continuous recording include the fact that it is time consuming and requires the observer's undivided attention.

_____ True _____ False

True

Interval Recording

Interval recording involves dividing the observational period into short continuous time periods and recording whether or not the target behavior

occurred during the interval being observed.	
In interval recording, you __________ the observational period into __________ continuous time periods. You then observe and record whether or not the target behavior occurred during a given __________.	divide short interval
Procedure for Interval Recording	
1. Determine the number of intervals into which you are going to divide the observation period. Each of the intervals must be the same.	
2. During each time interval, record the number of times that the client displays the target behavior (that is, you record the events of interest). At the end of each time interval, start over again and repeat the event recording process.	
In interval recording procedures, each of the intervals must be the __________. During each time interval, you record the number of __________ that the target behavior occurs. Then, at the end of each time interval, you __________ all over again and repeat the event recording process.	same times start
Advantages of Interval Recording	
Interval recording gives an estimate of both the count (Event Recording) and the duration (Duration Recording) of the target behavior.	
Interval recording provides an estimate of both the __________ and __________ of a target behavior.	count duration
Disadvantages of Interval Recording	
Interval recording is a difficult procedure which requires the undivided attention of the observer. The observer should practice the technique until he is familiar with it before attempting to record the target behavior using the interval approach.	
Before actually employing interval recording procedures, the observer should first __________ recording target behaviors using the method.	practice

Time Sampling As an Observation Method

In time sampling, observation sessions are divided into equal intervals. However, the target behavior is recorded only at the end of each interval. Time sampling is similar to interval recording except that it does not require continuous observation of the target behavior.

In the time sampling procedure, the target behavior is recorded at the ____________ of each interval.

end

Procedure for Time Sampling

Step 1. Determine the number of equal intervals into which you are going to divide the observation period.

Step 2. Determine the amount of time during each interval that recording will be conducted.

Step 3. Determine the place in each interval when recording will be conducted.

Step 4. During each specified time period, record the number of times that the client displays the behavior (This, of course, is event recording).

Step 5. At the end of each specified time period within each interval, cease to record the behavior even though it may continue to occur.

Step 6. During the specified time period in the NEXT interval, repeat the procedure outlined above.

Advantages of the Time Sampling Method

1. Time sampling gives an estimate of both the count (event recording) and the duration (duration recording) of the target behavior without requiring the undivided attention of the observer.
2. Observation sessions can be made longer in time sampling than interval recording without disrupting other scheduled duties of the observer.

Disadvantages of Time Sampling

1. Time sampling is a difficult procedure which requires good organization on the part of the observer. It is strongly recommended that the observer practice the technique until he or she is familiar with it before attempting to record target behaviors.

Time sampling requires the undivided attention of the observer.

_____ True _____ False

False

Time sampling provides an estimate of both the count and the duration of the target behavior.

_____ True _____ False

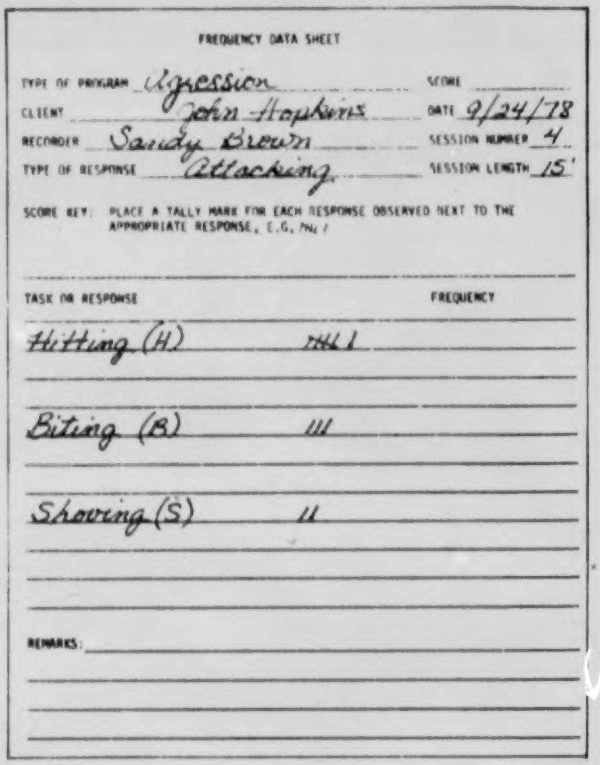
True

Placheck

In the placheck observational method, at specified intervals you count as quickly as possible the number of clients engaged in the target behavior and then record the total. You use the placheck method if your objective is to determine how many clients are engaged in a particular behavior at a particular time.

The placheck observational method is used when you wish to determine how many clients are engaged in a particular ____________ at a particular ____________.

behavior
time



FREQUENCY DATA SHEET

TYPE OF PROGRAM Agression
CLIENT John Hopkins
RECORDER Sandy Brown
TYPE OF RESPONSE Attacking
SCORE
DATE 9/24/78
SESSION NUMBER 4
SESSION LENGTH 15'

SCORE KEY: PLACE A TALLY MARK FOR EACH RESPONSE OBSERVED NEXT TO THE APPROPRIATE RESPONSE, E.G. 卌 /

TASK OR RESPONSE	FREQUENCY
Hitting (H) 卌 I	
Biting (B) III	
Shoving (S) II	

REMARKS:

Figure 5. Organizing Data From Event Recording

Once you have collected your observational data, it must be organized in some way so that it can be interpreted. We will now discuss how to organize the data obtained from event and duration recording.

Organizing the Data from Event Recording

1. For each observation session, ADD all of the tally marks together and obtain the total for that day. Write the total in large numbers on the data sheet and circle it.

2. The total number of tallies each day is a measure of the frequency of the target behavior for that particular observation session.

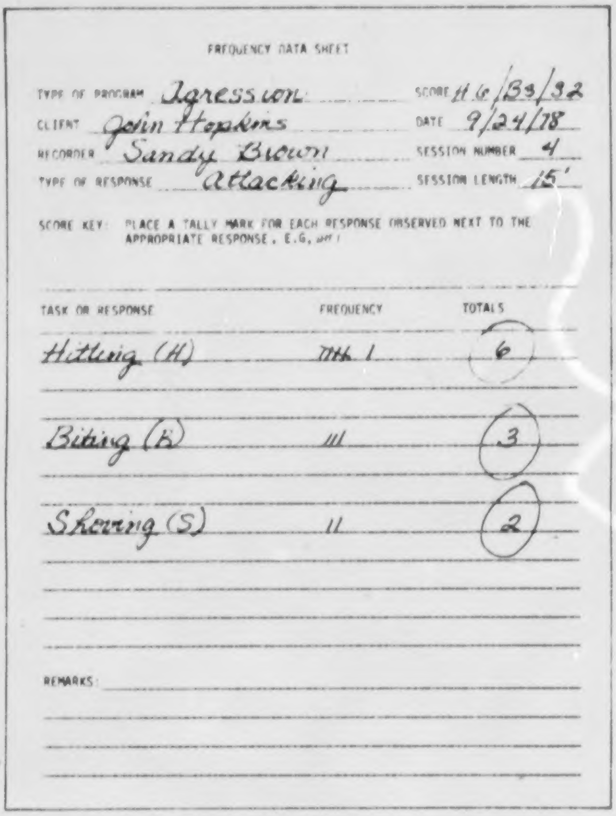
3. Repeat the addition process for each of the data sheets. Keep the total for each day SEPARATE.

4. Each of these totals will be used in charting the behavior.

In organizing data from event recording, you ____________ all of the tally marks for each observation session to obtain the ____________ for the day. The total is then usually written in large numbers on the data sheet and _________.

add
total

circled



FREQUENCY DATA SHEET

TYPE OF PROGRAM Agression
SCORE H 6/B3/S2
CLIENT John Hopkins
DATE 9/24/78
RECORDER Sandy Brown
SESSION NUMBER 4
TYPE OF RESPONSE Attacking
SESSION LENGTH 15'

SCORE KEY: PLACE A TALLY MARK FOR EACH RESPONSE OBSERVED NEXT TO THE APPROPRIATE RESPONSE, E.G, 𝍸 I

TASK OR RESPONSE	FREQUENCY	TOTALS
Hitting (H)	𝍸 I	6
Biting (B)	III	3
Shoving (S)	II	2

REMARKS:

Figure 6. Organizing Data From Duration Recording.

Organizing the Data from Duration Recording

1. For each observation session, ADD all of the times together and obtain a total for that day. Write the total in large numbers on the data sheet and circle it.

2. The total time each day is a measure of the duration of the target behavior for that observation session.

3. Repeat the addition process for each of the data sheets. Keep the total for each day SEPARATE.

4. Each of these totals will be used in charting the behavior.

In totalling results of duration recording procedures, you keep the total for each day ______________, since these totals are used in charting the client's target behavior.

separate

The Need for Daily Written Records

It is very important that you keep daily written records on each client undergoing behavior modification. The following information should be contained in these daily records: (1) the step-by-step progress each client is making towards mastery of the target behaviors, (2) the type of reinforcement being used, along with a notation concerning when the reinforcement is changed or faded, (3) a general description of each day's events, coupled with any pertinent facts or information about the client, (4) the initial and current operant levels and (5) the worker's evaluation of daily progress which the client has made.

Which of the following types of information should be included in the client's daily written record?

_____ 1. Progress towards mastery of target behaviors.

_____ 2. Type of reinforcement being used.

_____ 3. General description of each day's events.

_____ 4. Initial and current operant levels.

_____ 5. Worker's evaluation of daily client progress.

1, 2, 3, 4, and 5

Another advantage of daily written records is that if adequate data is kept on each client, the

22.1

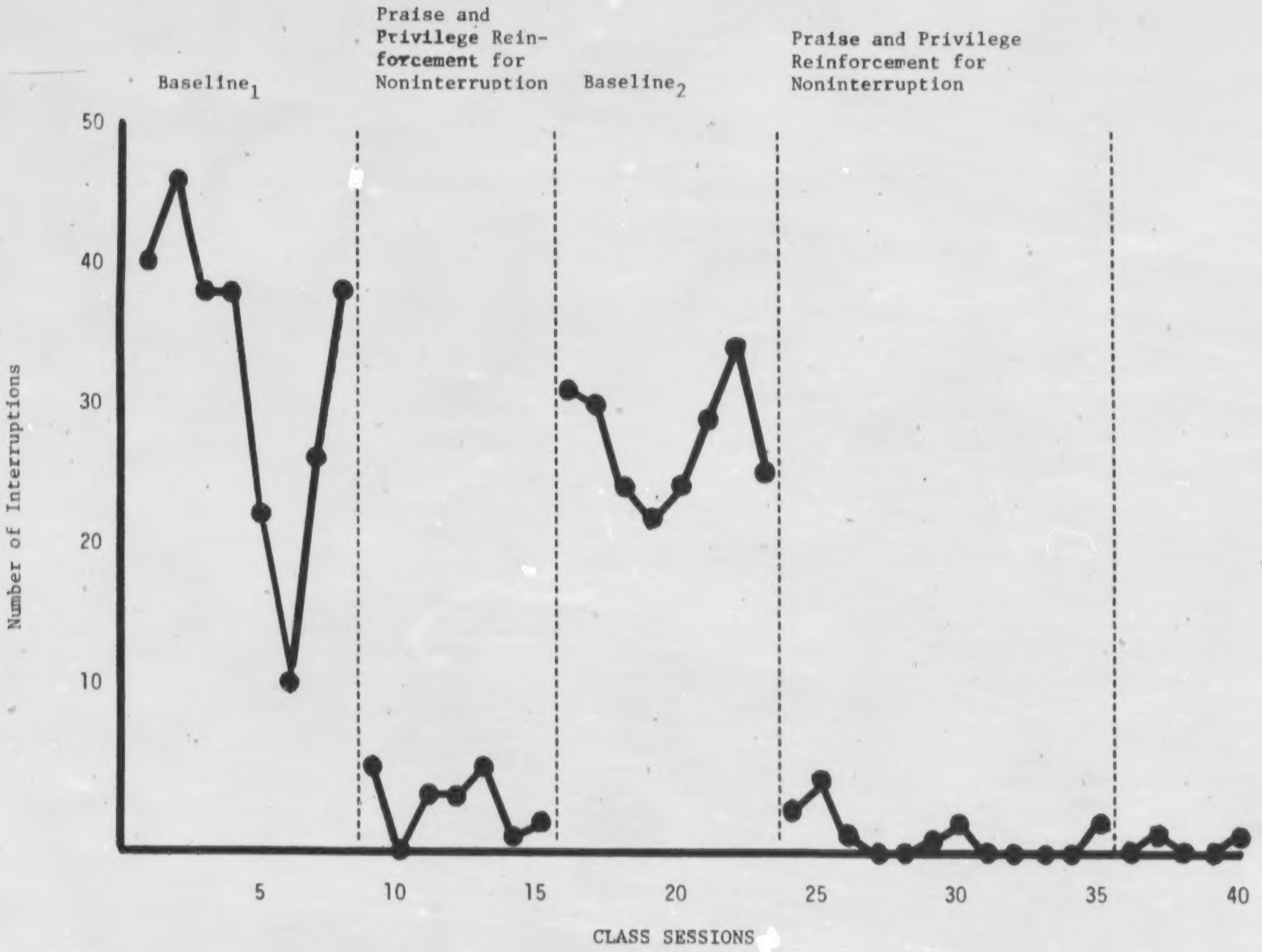


FIGURE 7. A Record of the Number of Interruptions in a Fifty Minute Reading Class Showing Baseline Data.

successes and failures can be charted so that overall progress can be noted. The written records can also be passed along to other staff members who are concerned with the care and training of the client, so that everyone's efforts can be coordinated to assure consistency.	
The availability of daily written records will help you determine the client's overall ________.	progress
The format in which you obtain the data we have been talking about is not the most important consideration. What is important is that you obtain the data in a systematic manner. A standard format, if one is available at your facility, can help you do this. If a standard daily record has not been developed, perhaps you can offer suggestions for one to your facility behavior modification committee.	

Determining the Baseline

An important concept in the behavior modification approach concerns development of the baseline. In case you are not familiar with this term, perhaps the following information will be helpful:

1. The term baseline describes the frequency or rate of occurrence of the target behavior during the initial period of observation under normal, everyday state school or hospital conditions.
2. The baseline represents a measure of the number of times the behavior occurs under the "old" system of managing the client's behavior.
3. Baseline data becomes the standard or norm you use to judge whether or not the frequency of the behavior is increasing or decreasing under your intervention strategy.

The standard or norm you use to judge whether or not the frequency of the behavior you are concerned with is increasing or decreasing under your intervention program is the ___________.

baseline

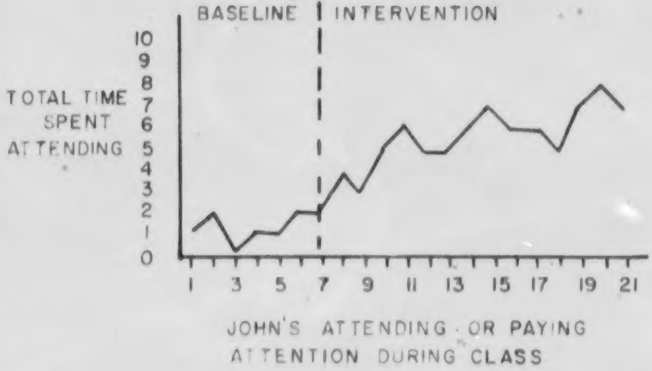


Figure 8. Data Showing the Amount of Time John Spent Paying Attention in Class During the Baseline and Intervention phases.

In the illustration shown as Figure 8, compared to the baseline, the total amount of time John spent paying attention in class has increased considerably. This would suggest that the intervention used was: (Select the correct answer)

(a) effective

(b) ineffective

(a) effective

Sources of Information for Baseline Data

1. Since the client's current behavior is the basis upon which we need to base a behavior modification program, information containing answers to such questions as "Which behaviors need to be developed or reinstated?" and

"Which need strengthening and which need to be extinguished?" must be obtained.

2. Baseline data can be derived from various sources such as:

   a. Client's clinical records

   b. Interviews with clients

   c. Interviews with persons who have at any time treated or helped with the treatment of the client

   d. Direct observation of the client's behavior

From which of the following sources might we obtain baseline information?

_____ a. Clinical records

_____ b. Client interviews

_____ c. Direct client observation

_____ d. Interviews with other workers

a, b, c, and d

Data from direct observation of a client's behavior should be the primary source for baseline information. This is because properly made, direct observation of a client's behavior provides objective data which most clearly shows a client's behavioral strengths and weaknesses.

Where possible, the primary source for baseline information should be from ____________ observation of a client's ____________.

direct
behavior

Baseline Considerations - Summary

1. Before you begin a behavior modification program, the first step is to determine the present level of the behavior. This is called the operant level.

2. The record you make of the operant level of the behavior is called a baseline.

3. The most effective way to represent a baseline is with a graph. We will discuss graphing in just a moment.

4. The main reason for obtaining a baseline is to determine whether the behavior modification program is having any effect on the target behavior. Unless a baseline is obtained, you could easily assume that a change has occurred in the target behavior when no change has in fact occurred.	
Baseline Stability Some kinds of target behaviors will change more than others. The amount of spontaneous change demonstrated in the target behavior determines its stability. What determines the stability of a target behavior? ______________________________	the amount of spontaneous change demonstrated
If the frequency of a behavior changes drastically from one observation period to the next, the behavior is not very stable. If the frequency of a behavior rarely changes from one observation to another the behavior is said to be very stable. If the frequency of a behavior changes drastically from one observation period to the next, the behavior is said to be: (a) stable (b) unstable	(b) unstable
If the target behavior begins to change or become unstable during the baseline phase of the intervention procedure, wait until the baseline becomes stable before implementing the intervention program. You should wait until the baseline becomes ______________ before you implement your intervention program.	stable
The best way to tell if a baseline is stable is to look at the baseline graph. If the baseline is not fluctuating very much or is fluctuating within a certain range, it is usually safe to assume that the baseline is stable. If so, you can proceed with the training program. If the baseline is fluctuating unpredictably, you should	

wait until the baseline stabilizes before proceeding.	
Examination of the baseline __________ will tell you whether or not the baseline is stable or unstable.	**graph**
Most baselines should be gathered over a number of sessions. However, this is not a hard and fast rule. The duration of the baseline phase of the intervention program should be determined by the stability which is characteristic of the target behavior.	
What determines the duration of the baseline phase? ____.	**stability of the target behavior**
Special Note: If you are unsure regarding whether or not your baseline is stable, consult one of your facility behavior modification resource individuals.	
Summarizing and Graphing	
Once you have accumulated information on a client's behavior, you will have to make some sense out of it. For example, if you have figured the rate of Mark's aggressive behavior over a period of three weeks, you will have 21 rates, one for each of the 21 days that you observed him. It is often difficult to analyze so much data. One way to reduce such large amounts of data to a simpler form is to graph it.	

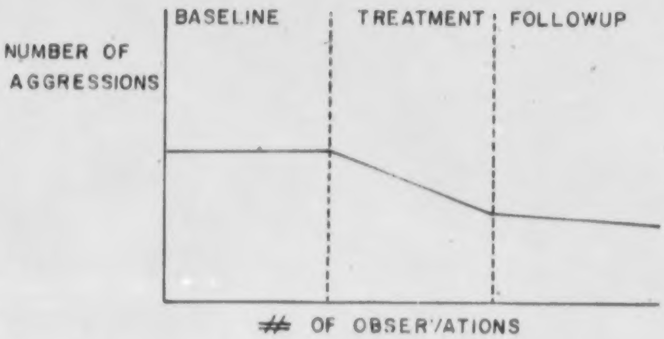


Figure 9. A Graph Showing a Client's Behavioral Data Over Time

Graphs are useful for displaying behavioral observations so as to provide an overall view of when and how frequently a target behavior occurs. Graphing **will let** you know when you have reached the target behavior goal and will also enable you to quickly troubleshoot your intervention program if something starts to go wrong.

Advantages of graphs include the fact that they will (1) let you know when you have reached the target behavior ____________ and (2) enable you to quickly ____________ your intervention program.

goal
troubleshoot

Refer to Figure 9. The line on the left side of the figure and going UP the side is used to indicate the RATE or AMOUNT of behavior. This is the verticle axis or ordinate.

The line at the bottom of the figure and going ACROSS is used to indicate the time when the behavior occurred. This is the horizontal axis or abscissa.

Rate or amount of behavior is indicated on the verticle __________ or __________.

axis
ordinate

The time a behavior occurred is indicated on the horizontal __________ or __________.

axis
abscissa

Labeling the Graph

Each graph label should be as short as possible while still describing the numbers you will put on it. The line at the bottom of the graph (the abscissa) is usually simple to label. Select a label that indicates the TIME factor that you are recording, such as observation sessions, training sessions, days, weeks, hours, etc. The line at the side of the graph (the ordinate) is somewhat harder to label. In general, you should use a word or words that describe the target behavior being recorded. From your behavioral definition, the words describing what the client is DOING usually work well.

In labeling the abscissa of a graph, you select a label that indicates the __________ factor. Words describing what the client is __________ are used to label the ordinate of a graph.

time
doing

Charting Entries on a Graph

In order to chart or make entries on a graph, you must do three things:

1. Find the correct time line. This should correspond to the observational session, training session, day, week, hour, etc.

2. Total the number of target behaviors observed (or the time).

3. Place a dot on the graph where the time line and the behavior line cross.

The charting procedure is very simple. You simply repeat this procedure described above for each observational session. Then, you connect the dots with a ruler, as shown in Figure 9.

Describe the procedure used to chart - or make entries - on a graph.

____

____

____

____

____

1. Find the correct time line; 2. Total the observations or time; 3. Place a dot where the time and behavior line cross; 4. Connect the data with a ruler.

Graphing - A Review

1. Transfer the daily count of the target behavior to a master graph which will allow you to see the fluctuations in the behavior.

2. The horizontal or x axis of a graph is called the abscissa. The vertical or y axis is called the ordinate.

3. Plot time (days of the month, observational period, hours, etc.) along the horizontal axis or abscissa.

4. Plot your count of the target behavior in terms of number of responses, duration of the response, or number of intervals, etc. along the vertical axis or ordinate.

5. By reflecting the actual count of behavior on a graph you are in a much better position to determine whether or not the intervention you have selected is really working.

6. With a graph as a tool you can try any intervention - positive reinforcement, fines, withdrawal of privileges, etc. - and assess whether it is having an effect in terms of actually changing the client's target behavior. Analysis of the information graphed will permit you to make this determination quite readily - particularly if you place observations from all three phases (baseline, treatment and follow-up) on the same graph, as shown in Figure 10.

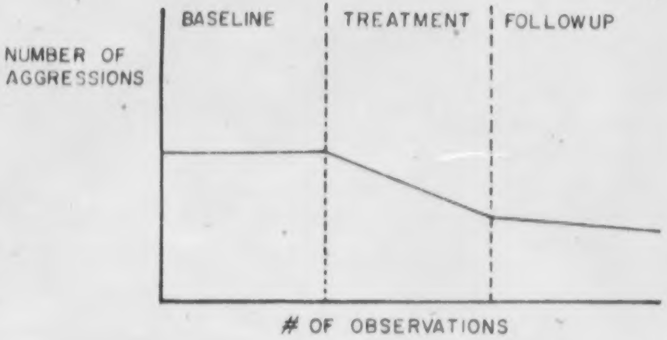


Figure 10. Aggressive Behavior Plotted on a Graph.

As you can see from the information in Figure 10, it is easy to compare what happened to a client's behavior during the baseline phase, during treatment, and follow-up. In Figure 10, where aggressive behavior has been graphed, the intervention used "worked". That is, there has been a decrease in the display of aggressiveness. As you can see, it is helpful for interpretation to divide the various phases with heavy dotted lines as shown in the figure.

Reliability Considerations

The soundness and effectiveness of any behavior modification program depends upon the reliability of its measurement procedures. If the measurement procedures which are used are not reliable, it is possible for the client's behavior to remain stable while only the recording of the behavior changes because of observer bias. Similarly, it is possible for the client's behavior to change while the record remains unchanged, because the measurement procedures are unreliable.

The soundness and effectiveness of any behavior modification program depends upon the ________ of its measurement procedures.

reliability

Reliability checks using a second observer are sometimes used to provide increased confidence that it is actually the client's behavior and not the observer's recording of the client's behavior which changes as a result of an intervention program. The degree of agreement between the resulting sets of observations can be indicated by use of a graph, with the second observer's recording being indicated by x marks or some other symbol to distinguish it from the primary observer's record, as shown in Figure 11.

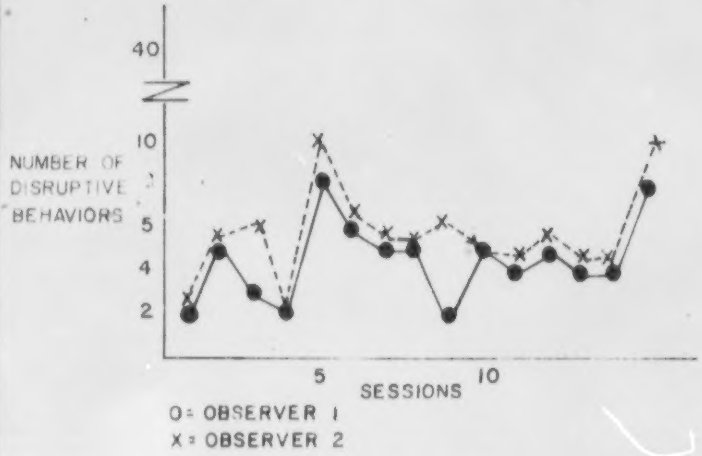


Figure 11. Use of a Graph as a Reliability Check by Recording the Observations of two individuals to See How Close They Correspond to Each Other.

You can use a graph of two sets of observations as a reliability check to insure that it is actually the client's behavior and not faulty observation of the client's behavior which changes as the result of an intervention program.

____ True ____ False

True

The degree of correspondence between different observers can also be expressed in numerical terms. For example, in interval or time-sample recordings, the accepted procedure is to divide the number of instances of agreement on the observer records by the total number of agreements plus disagreements (i.e., the total number of recording opportunities). The quotient is then multiplied by 100, with the resulting figure being the percentage of agreement between the observers.

$$\frac{\text{agreements}}{\text{agreements + disagreements}} \times 100 = \text{\% of agreement}$$

A	-	A	A	A	-	-	A	A	A
A	-	A	A	A	A	-	A	A	A
1	2	3	4	5	6	7	8	9	10

AGREEMENTS = 9 OUT OF 10

$$\frac{9}{10} \times 100 = 90\%$$

Figure 12. Sample observer's record showing agreement on all the time samples except the 6th. Therefore, the observers agreed 9 out of the 10 possible times. The percentage of agreement was 90.

Calculation: $\frac{9}{10} \times 100 = 90\%$

In dealing with event recording, duration recording, and direct measurements, you can determine agreement by dividing the record of the observer with the lower figure by the record of the observer with the higher figure. Thus, if one observer records that Hank aggressed against others nine times during the morning, and if another observer **record** shows that he did so 11 times, the percent of agreement would be:

$$\frac{9}{11} \text{ X } 100 = 81.8\%$$

Suppose that Hank aggressed against others 4 times during the morning according to one observer and 5 times according to another. What would be the percent of agreement? ____________

$$\frac{4}{5} \text{ X } 100 = 80\%$$

The nearer the various observer's observational records are to perfect agreement, the nearer they will be to 100%. Generally, ninety percent or better agreement between observers is desirable. However, 80% agreement or better is sometimes acceptable for many types of observational recordings. Even though no absolute standards have been established, the percentage of agreement of observational records does give us some measure of the reliability of the recording procedures used and should be given serious attention in a behavior modification program.

Generally, agreement between observers should be at least ____________ percent or better in a behavior modification program.

90

Summary

During this handout we have discussed the various procedures used in observing and recording behavior as part of a behavior modification program. We saw that the very first step in starting a program to change a client's behavior involves careful and controlled observation of the behavior as it is presently occurring. We have to observe what is going on now before we can set behavior goals or make plans for achieving them. In order to make these observations as accurate, objective and useful as possible, we noted that we have to specify exactly what the behavior is we are going to record or count. We also stressed that - in order to understand all the conditions affecting a given behavior we must determine what happens just before and immediately following behavior. We called this the ABC's of behavior. What we are looking for is information concerning what "sets" the behavior off and what happens as a result of the behavior. We also saw that one of our principle concerns is obtaining baseline data. We get this by adding up behavioral occurrences, so as to get a count of how much the behavior occurs under regular conditions for a given time period. The baseline tells us where we are beginning with the behavior we are dealing with and how serious it really is.

In the handout, we noted that a target behavior can be counted in several ways. The method we discussed included:

(a) Frequency counting, which means that you count the number of times the behavior occurs within a given period of time.

(b) Duration counting, which means that you count the length of time the behavior lasts.

(c) Interval counting, which means that you count intervals of time in which the behavior occurs at least once.

We noted that is is important for you to determine the time of day when you will observe and count the target behavior. If it is a low frequency behavior, you may decide to count it throughout the day. If it is a high frequency behavior you may decide to count it for a limited period of time, e.g., four hours a day.

We emphasized that observing and counting the behavior at the same time of day for the same length of time is essential. Otherwise, you may begin counting a behavior during the afternoon when it frequently occurs and then switch over to counting it in the morning when it seldom occurs. When this happens, you are apt to wrongly conclude that there has been a great change in the frequency of the behavior, when in fact there has been no such change.

During the initial stages, we made a point that you should observe and count the behavior unobtrusively. The client should not know what you are doing. Otherwise he could deliberately behave so as to "foul-up" your observations.

We also noted that you should record your count of the target behavior systematically, recording the target behavior as it occurs. A written record is better than memory since it is easy for us to forget. A common means of recording the count is with check marks on a behavior record. The format is not the most important consideration. It is what you do with it that counts. Several other methods can be used to facilitate the recording process. Some of those involve the use of response counters worn on the wrist, grocery shopping counters, stop watches, and kitchen timers.

Student Quiz 100-3
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

OBSERVATION AND MEASUREMENT IN BEHAVIOR MODIFICATION

Multiple Choice Items

1. In attempting to change behavior, why should you focus on observable behavior rather than on internal thoughts and feelings?

   a. behavior is more easily specifiable and observable than internal thoughts and feelings
   b. behavior that is observable is countable or measurable
   c. observable behavior allows you to determine whether the behavior of concern is changing as a result of your intervention
   d. all of the above

2. In terms of a behavioral analysis, behavioral deficits are behaviors which the client

   a. does too often, too much or at the wrong times
   b. fails to do as often as you would like, as much as you would like, or when you would like
   c. does not have in his behavioral repertoire
   d. none of the above

3. Which of the following is an example of a behavioral asset?

   a. cooperative interaction with other clients
   b. assertiveness such as verbal name-calling
   c. consistent failure to perform assigned chores
   d. a and b

4. A behavioral "situational analyses" should consider the

   a. antecedent or the stimulus situation which precedes the behavior
   b. actual behavior as it occurs
   c. consequence which immediately follows the behavior
   d. all of the above

5. When you count the number of times a particular behavior occurs within a given period, you are using which type of counting?

   a. frequency counting
   b. duration counting
   c. interval counting
   d. observational counting

True/False Items

6. In doing a behavior analysis, it is important that you specify the behavior in such a manner that it is observable and countable.

_____True _____False

7. To determine what is cueing and maintaining the client's target behavior, it is important that you note the events which both precede and follow the behavior.

_____True _____False

8. The question you ask yourself in order to discover the antecedent of a behavior is: "What happened immediately following the occurrence of the behavior?"

_____True _____False

9. " **Baselining** " target behaviors means that they must be defined in such a way that can be observed and counted.

_____True _____False

10. Interval counting means you count the length of time a particular behavior lasts.

_____True _____False

11. In frequency counting, you consider the total amount of time spent doing a particular behavior, such as pacing or whining.

_____True _____False

12. The time of day when you observe and count a target behavior is of no consequence.

_____True _____False

13. You should always record the client's behavior as it occurs.

_____True _____False

14. The term "operationalizing" behavior means defining it in observable terms and determining how the behavior is to be counted.

_____True _____False

15. The time of day when you observe the behavior is not important as long as you observe for the same length of time.

_____True _____False

16. Trying to remember the daily count without keeping a written record is good because it helps strengthen the observer's memory.

_____True _____False

17. During the baseline period it is important to observe unobtrusively so that the count will accurately reflect the frequency of the behavior under "normal" conditions.

_____True _____False

18. Counting behavior forces an MIMR worker to attend more closely to the client's behavior.

_____True _____False

19. The term baseline is used to describe the bottom, horizontal line of the graph.

_____True _____False

20. The graph serves a feedback function which allows a MIMR worker to assess whether the target behavior is actually changing.

_____True _____False

21. Intervention is a term used to describe what a worker does when two clients are fighting.

_____True _____False

22. A situational analysis examines three things: the Antecedent, the Behavior and the Consequence.

_____True _____False

23. The purpose of the situational analysis is to help the MIMR worker to identify what antecedent conditions are presently cueing the client's behavior and what consequences are maintaining it.

_____True _____False

24. In graphing, you plot time (days of the month, observational period, hours, etc.) along the horizontal axis or abscissa.

_____True _____False

25. Each entry on a graph reflects both the amount or rate of behavior and the time (day, period, etc.) when it occurred.

_____True _____False

Multiple Choice Items

26. If Paul "bangs his head" two times in fifty minutes, then he bangs his head at the rate of how many times per minute?

a. .02 times per minute
b. .03 times per minute
c. .04 times per minute
d. .004 times per minute

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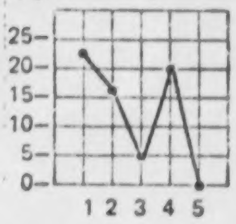
27. James slapped other children 312 times in a total observation period of 100 hours. What is his rate of slapping per hour?

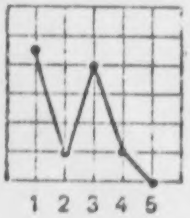
a. .031 times per hour
b. 3.1 times per hour
c. 31 times per hour
d. none of the above

28. Betty cried for 23 minutes the first day of behavior therapy, 16 minutes the second day, 20 minutes the third day, 5 minutes the fourth day, and did not cry at all on the fifth day. Which graph accurately shows the number of minutes that Betty cried each day?

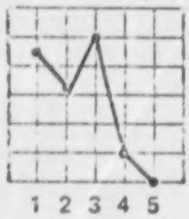
MINUTES BETTY CRIED



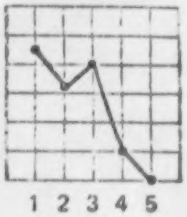
a.



b.



c.

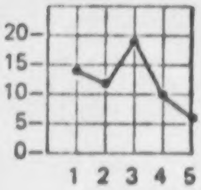


d.

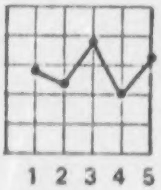
DAYS OF OBSERVATION

29. Paul hit 14 other children during the first week of behavior therapy, 12 people the second week, 19 the third week, 10 the fourth week, and 6 the fifth week. Which graph accurately shows the number of people Paul hit each week?

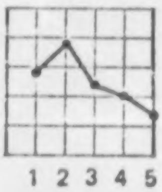
NO. OF TIMES PAUL HITS



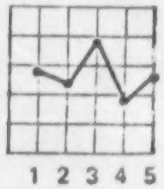
a.



b.



c.



d.

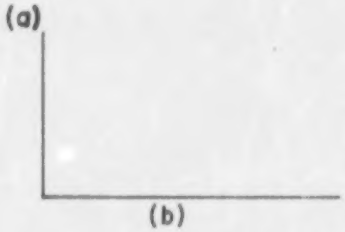
WEEKS OF OBSERVATION

30. The baseline functions in which of the following ways?

a. describes the frequency or rate of occurrence of the target behavior during the initial period of observation.
b. represents a measure of the number of times a behavior occurrs under your "old" system of behavior management.
c. functions as the norm against which you judge whether or not the frequency of behavior is increasing or decreasing.

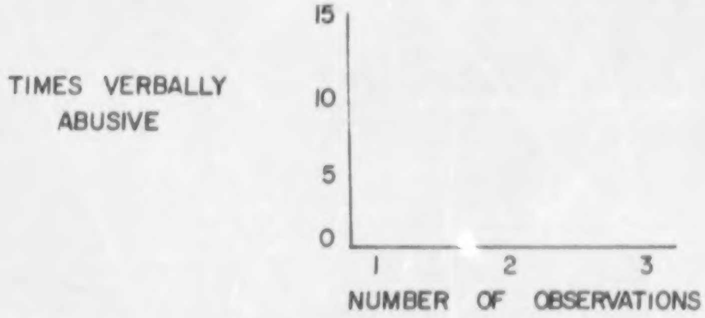
d. all of the above

31. A dormitory worker has recorded the number of times a child has wet himself each day. Label the axis of the graph where the information will be recorded.



(a)____________ (b)____________

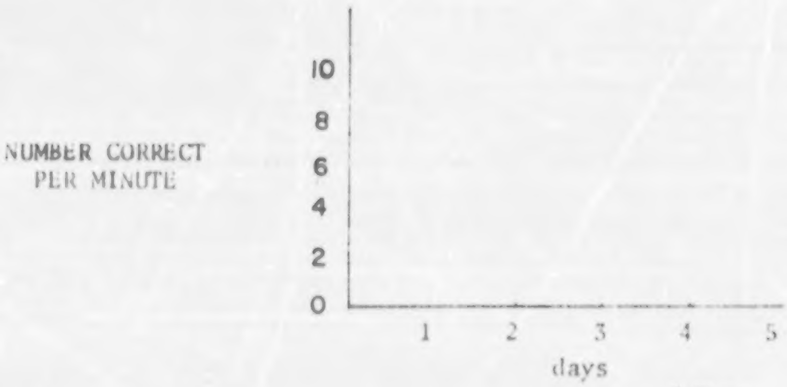
32. A child was verbally abusive 10 times the first day, 13 the second and 8 the third. Plot the data points on the following graph:



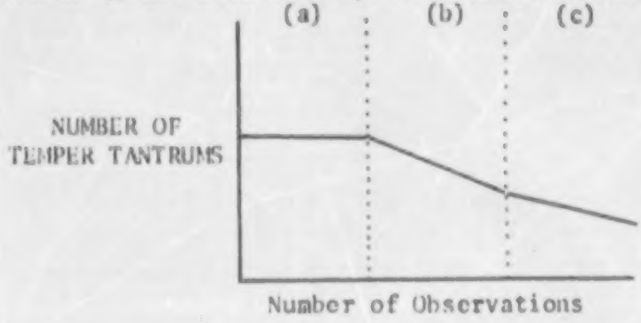
33. A teacher is recording the number of problems each child can solve. The teacher is also interested in the amount of time required to finish the problems each day. For this reason, he is going to use rate (i.e., the number of correct problems per minute). The data for John show:

No. Correct	Time to Complete
15	2 min.
7	1 min.
18	4 min.

Plot the three data points on the graph below:



34. In the graph below, a worker has divided the data concerning the incident of temper tantrums with a dotted vertical line each time a new intervention phase was begun. Assuming the data is complete, label the three phases.



a. ________________

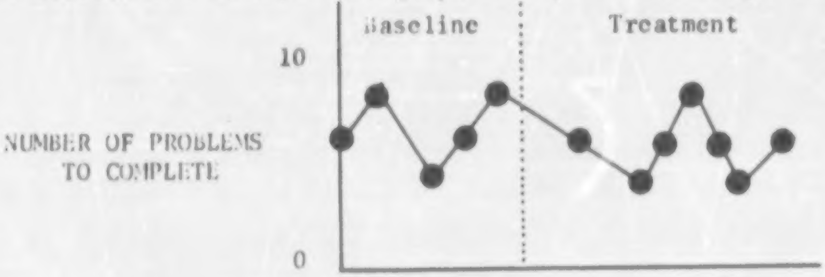
b. ________________

c. ________________

35. Based on the above graph, did the worker's treatment intervention or procedure work?

____Yes ____No

36. Assume that you are trying to increase the number of problems a client can solve (as number correct out of 10). The graph from your recording looks like this:



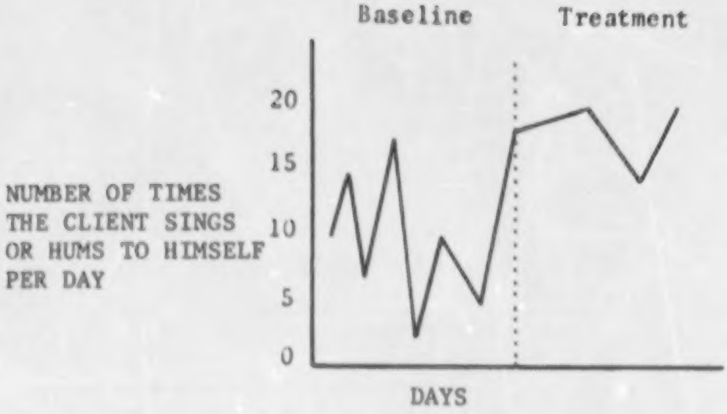
From the basis of the data, should you continue the procedure? Explain.

____

____

____

37. A client continuously sings or hums to himself and disturbs the clients around him. The worker decided to use extinction and told the other clients to ignore him when he is singing or humming. The data accumulated thus far appears below. Should the worker continue the procedure?


Baseline
Treatment
20
15
10
5
0
NUMBER OF TIMES THE CLIENT SINGS OR HUMS TO HIMSELF PER DAY
DAYS

Solution to Student Quiz 100-3
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

OBSERVATION AND MEASUREMENT IN BEHAVIOR MODIFICATION

Multiple Choice Items

1. d
2. b
3. a
4. d
5. a

True/False Items

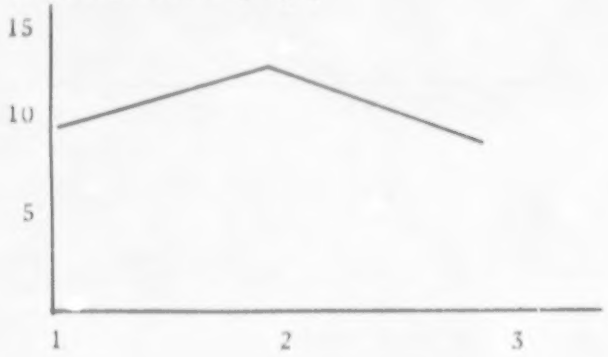
6. True
7. True
8. False
9. False
10. False
11. False
12. False
13. True
14. True
15. False
16. False
17. True
18. True
19. False
20. True
21. False
22. True
23. True
24. True
25. True

Multiple Choice Items

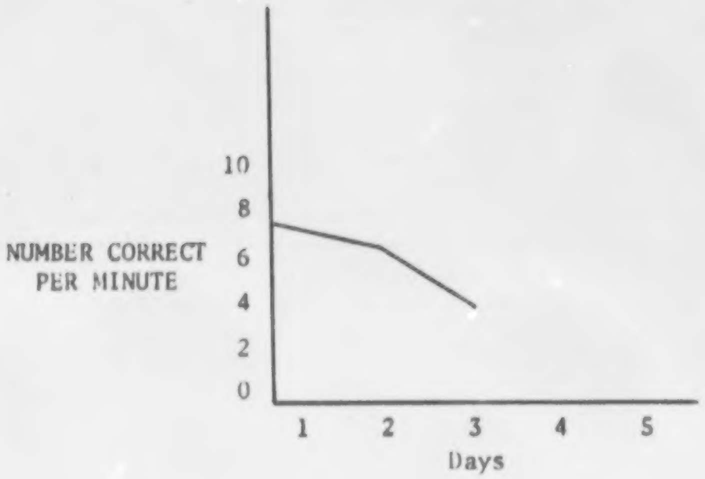
26. c
27. b
28. d
29. a
30. d

31. a. number of times out of seat
    b. number of observations (days)

32.



33.



34. a. baseline
    b. treatment
    c. follow-up

35. Yes

36. No--No change occurring. One should not continue unless there is some reason to believe the program had not been in effect long enough to get change.

37. No--The client has shown no substantial improvement. In fact, he is a little worse off. You need to consider an intervention strategy other than extinction.

Lesson Plan 100-4
Code 76-7

Texas Department of Mental Health and Mental Retardation

Concepts and Schedules of Reinforcement In Behavior Modification

LESSON PRESENTED TO: TDMHMR Personnel Participating in Behavior Modification Program

PLACE: Classroom

REFERENCES: Bandura, A. Principles of Behavior Modification: Holt, Rinehart and Winston, New York, 1969.
Ferster, C. B. Behavior Principles, 2nd Edition, Englewood Cliffs: Prentice-Hall, 1975.
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O'Leary, K. D. and Wilson, G. T., Behavior Therapy: Application and Outcome, Englewood Cliffs: Prentice-Hall, 1975.
Whaley, D. L. and Malott, R.W., Elementary Principles of Behavior, Englewood Cliffs: Prentice-Hall, 1971.
Skinner, B. F. Science and Human Behavior, New York: Macmillan Company, 1953.
Thomas, J. (editor). Behavior Modification Procedure: A Sourcebook Chicago, Illinois: Aldine Publishing Company, 1974.
Wolpe, J. The Practice of Behavior Therapy, New York: Pergamon Press, 1969.

STUDY ASSIGNMENT: Read Student Handout 100-4 "Concepts and Schedules of Reinforcement In Behavior Modification."

INSTRUCTIONAL MATERIALS AND EQUIPMENT: Chalkboard, chalk, eraser, 35 mm projector, and transparencies numbered 100-4-0 through 100-4-29.

TYPE OF INSTRUCTION: Lecture and Group Discussion.

I. INTRODUCTION

A. Opening Statement

Note: Display Transparency 100-4-0.

During this period we will be discussing the concept of reinforcement and the important role it plays in behavior modification. In our discussion, we will be taking a look at several important reinforcement principles and note how they can be used to strengthen and maintain desirable behavior.

B. Instructional Objectives

Upon completion of this instructional unit, the student will be able to:

1. Identify the consequences of a behavior, given an account of the events surrounding the behavior.
2. Identify consequences which were reinforcers, given a description of a behavior and its consequencies.
3. Select from a list those events and items which are likely to serve as reinforcers.
4. Select from a list of situations those in which intermittent, as opposed to continuous reinforcement, should be used.
5. Write six rules specifying when and where to give reinforcement.

II. PRESENTATION

A. The Nature of Operant Behavior

Note: Display Transparency 100-4-1.

1. In our previous class periods, we established that an operant is an "emitted" behavior rather than an "elicited" behavior. We say that it is emitted because we are not certain concerning just what are the stimulating conditions. All that we know for sure is that the behavior occurs. Consider the slide shown on the screen. This suggests that an animal placed in a Skinner box will eventually press the lever. The stimulus for doing so is unknown, which is why the (?) is placed after the stimulus term. The lever pressing response leads to delivery of a reinforcer (food pellet). The reinforcer in turn increases the rate at which the lever pressing response is emitted, hence the recircling arrow in the diagram. Skinner calls this emitted behavior an "operant", because it operates on the environment to produce the reinforcement.

2. In contrast, in an elicited response, such as the salivation of Pavlov's dogs, we know what the stimulus is and are reasonably certain that the behavior occurred as a response to that particular stimulus.

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3. In operant conditioning studies, you try to arrange conditions in such a manner as to alter the rate at which an operant occurs or is emitted. You alter this rate by manipulating the consequences of the behavior. These consequences are referred to as "reinforcers" or "reinforcement."

B. The Nature of Reinforcement

1. Knowing just what reinforces behavior is of great concern in attempts to modify behavior. Thus, reinforcement will be our chief concern during this instructional period.

Note: Display Transparency 100-4-3.

2. A reinforcer is any consequence that can increase or maintain the rate at which a behavior is emitted. To qualify as a reinforcer, the consequence has to "work." If the consequence had no effect upon the rate at which the behavior was emitted, it would not be a reinforcer. It would simply be another stimulus in the individual's environment.

Note: Display Transparency 100-4-4.

3. There are two basic types of reinforcers: positive and negative. A positive reinforcer is a consequence or event that increases the rate of any behavior that it follows. In everyday terms, we would view this as a reward.

4. A negative reinforcer then is a consequence or event that increases the rate of any behavior when it is removed following the occurence of that behavior.

   EXAMPLE: A threat would be a negative reinforcer because it would tend to increase the rate of any behavior leading to its removal, such as a child learning his ABC's to avoid having to stay inside the classroom during recess, which has been "threatened" by the teacher.

5. If reinforcement is viewed as an event or consequence that follows behavior, then the behavior can be said to "operate" so as to produce the reinforcement. The resulting relationship between the behavior and the reinforcing event is then said to be a "contingent" relationship. The reinforcement is produced by the behavior and is not available unless the behavior occurs.

C. Types of Contingent Relationships

1. As we discussed in an earlier class, four basic types of contingencies have been suggested as existing between behavior

and the events that reinforce the behavior.

Note: Display Transparency 100-4-5.

a. Contingency Relationship I - behavior resulting in the presentation of a positive reinforcer. This particular type of contingent relationship is the one which is frequently most employed in behavior modification programs. Here, if a person performs the behavior one is seeking, he is rewarded in some way. The reward may be one of many things such as food, money, a smile, the opportunity to engage in pleasant activities or to do something else that he likes to do. Importantly, if the reward is truly reinforcing to the person, the rate of behavior will increase.

Note: Display Transparency 100-4-6.

b. Contingency Relationship II - behavior resulting in the presentation of a negative reinforcer. The second type of relationship is one that is often called "aversive" stimulation. Frequently employed aversive stimuli are threats, physical punishment, and ridicule.

EXAMPLE: A young child is trained not to touch certain objects by spanking his hands if he does. The anticipation is that the child will now refrain from touching the objects in order to escape the punishment. When this occurs, one can be said to be exercising aversive control over the child's behavior.

Note: Display Transparency 100-4-7.

c. Contingency Relationship III - behavior resulting in the removal of a positive reinforcer. Another type of contingent relationship really qualifies as a form of "punishment". We can punish by withholding what we know in fact to be positive reinforcers.

EXAMPLE: A client is put on restriction (having to stay inside for a week) because he or she failed to do the chores. In this case, we punish not by doing anything aversive to the client but by withholding from him opportunities to engage in behavior which is rewarding, such as playing outside.

Note: Display Transparency 100-4-8.

d. Contingency Relationship IV - The fourth type of contingency relationship is in some ways a type of reward, even though it is not generally considered to be such. It involves avoiding negative consequences by engaging in desired behavior.

EXAMPLE: A father nags his teenage son in order to get him to take out the garbage. If he does so, the father will cease his nagging. Behaviors that keep away naggings, threats, scoldings, pain, and other negative reinforcers are frequently called "avoidance" behaviors. In other words, the person can avoid the negative - and undesirable - consequences by engaging in the desired behavior.

e. Some practitioners identify a fifth relationship as important in behavior modification. This is the condition known as "extinction." This simply refers to the disruption of a contingency relationship so it no longer operates. A common approach is to remove a positive reinforcer, not so as to constitute a form of punishment, but simply as a means of causing the behavior to disappear.

EXAMPLE: A client tells wild tales in order to get his parents' attention. However, if the parents refuse to pay attention to the client's stories, the behavior will tend to "extinguish" or disappear. It has undergone extinction.

2. Contingency Relationship Review

a. From our preceding discussions, we can say that behavior modification methods based on operant conditioning techniques will use one or the other of the five basic contingency operations or relationships we just discussed.

b. We saw that behavior can be increased in terms of frequency or maintained merely by the addition of positive reinforcers (and/or the removal of negative reinforcers).

c. We saw also that behavior can be decreased in frequency by the removal of positive reinforcers (and/or the addition of negative reinforcers).

d. We noted also that behavior can be (1) removed from an individual's behavioral repertoire or (2) markedly reduced via the process of extinction. This we saw is nothing more than the removal of contingent events.

e. From our discussion, we can see that behavior modification is based on attempts to arrange contingencies in such a way that desired behaviors are increased in frequency and maintained and undesired behaviors are either decreased in frequency or removed.

D. Further Discussion of the Reinforcement Concept

1. Without reservation, it can be said that reinforcement is fundamental to behavior modification, with the strength and effect of a reinforcement having the capability of making or breaking a behavior modification program.

2. As we saw earlier, reinforcement is a very encompassing term and is not restricted to a material object. It can be a word or glance or touch. In fact, reinforcement can be anything that accelerates the acquisition of behavior. It can be positive or negative.

Note: Display Transparency 100-4-9.

3. There are many kinds of positive reinforcers which are important in operant conditioning. One concerns primary reinforcers such as food or drink. Primary reinforcers can be anything from popcorn to Fritos to M&M's to Kool-Aid, and operate to meet a body need such as hunger or thirst.

Note: Display Transparency 100-4-10.

4. When the positive or negative value of a reinforcing stimulus is intrinsic ("built-in") - as with food or an electric shock - the stimulus is referred to as a primary reinforcer.

Note: Display Transparency 100-4-11.

5. When the reinforcing characteristics of the stimulus must be learned or acquired through continued association with primary reinforcers, the stimulus is called a secondary reinforcer. Included in the secondary response category are words - such as "good" or "bad", "yes" or "no", "excellent" or "poor" and money, which has no inherently rewarding or punishing potential.

6. Secondary reinforcers are also referred to as generalized reinforcers since, once their value has been established, they may influence a wide range of behaviors in addition to those which were involved during their initial acquisition.

7. Generally, we can assume that any response which a client can make can be established and maintained by appropriately scheduling reinforcement - provided, of course, that the subject's environment can be controlled. While a high rate of reinforcement may be necessary to initially establish a response, lesser rates are usually sufficient to maintain it. In fact, as we shall see later, learning appears to be especially persistent when reinforcement is intermittent or when the reinforcing stimulus does not invariably follow the response.

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8. If a child undergoing training is hungry and he likes the reinforcement offered to him, he will work to acquire a desired behavior just to get the "reward". Primary reinforcements are especially effective when used in conjunction with deprivation.

EXAMPLE: If a client has been deprived of food for a certain period prior to the behavior modification session, he will probably be hungrier than he usually would be and can be expected to strive much harder to gain the reinforcement. This all tells us that effectiveness of a primary reinforcer depends largely on the length of time that the client has been without it.

Note: Display Transparency 100-4-12.

9. An important concept associated with reinforcement involves satiation. This basically involves giving the client so much of a primary reinforcer that he does not want any more. If the client gets tired of the reinforcer (or becomes satiated) during the behavior modification process, he will not work towards acquiring the desired behavior. For this reason, the client should be given small amounts of a given primary reinforcer during the session, so that the effect of the reinforcement will not be reduced by satiation.

E. Manipulatable Reinforcers

Note: Display Transparency 100-4-13.

1. Another important kind of reinforcer which is used in behavior modification programs involves manipulatable reinforcers. Toys, games, activities, and situations that involve objects that can be handled fall into this general class of reinforcers.

2. Some mentally retarded clients are fascinated by rubber balls, moving toys, or even a piece of string that can be dangled in front of his face.

3. The manipulatable reinforcer, whatever it might be, will work more effectively if the client is deprived of it for a period of time prior to the training session.

4. Keep in mind that manipulatable reinforcers may sometimes be disadvantageous, because more time may be needed to administer the reinforcement and the manipulatable reinforcement may be bulky. These are important considerations for, if the reinforcement is to be effective, it must be given immediately following the appropriate response in such a manner that the client knows what particular behavior he displayed is being reinforced.

F. Tokens As Reinforcers

Note: Display Transparency 100-4-14.

1. If the client is of a sufficiently high level, tokens can be used in place of the actual reinforcer.

   EXAMPLE: You can equate a given number of tokens with the manipulatable reinforcer, a certain number of tokens being given for each incidence of a "desired" behavior. Then, after the client has earned the needed number of tokens, he would be allowed to play with the manipulatable reinforcer for a given length of time or exchange the tokens for some desired item, such as candy.

2. The client must be able to understand that the tokens will enable him to have access to the desired reinforcer. Otherwise, the tokens themselves will be meaningless, and the client will not work to get them.

G. Social Reinforcement

Note: Display Transparency 100-4-15.

1. The third major class of reinforcers is social reinforcement. This refers to praise, affection, or attention--literally anything involving people as the reinforcing agent.

2. For many clients a hug, a "good boy", a pat on the back, or the opportunity to interact with someone the client likes can be a great incentive to learn. This is particularly the case in institutions, because affection and attention are normally in short supply in a residential facility. This absence operates to deprive the client of adequate social reinforcement. This state of deprivation causes social reinforcers to exert a very strong effect, since all clients need attention and love in one form or another.

3. Social reinforcement can be used in conjunction with primary and manipulatable reinforcement. In this particular application, the social reinforcer is called a bridging signal and is used to "tie" the child's response together with the reinforcer.

   Note: Display Transparency 100-4-16.

4. A bridging signal is sometimes necessary since many times the reinforcement cannot be administered fast enough to let the client know exactly what it is that he is being reinforced for. In this type of situation, the time interval between response and reinforcement is covered by the worker administering a

"good boy" or a pat on the back as a reinforcer. This is important, because if a child does not know which of his responses is being reinforced, he may wind up learning the wrong behavior. Effective use of a bridging signal can help guard against the individual learning the "wrong" behavior.

Note: Display Transparency 100-4-17.

H. Decelerators

Up to this point, we have been discussing accelerators. That is, conditions or events that lead to development and maintenance of desirable behaviors. We also need to recognize that there are conditions or events which retard or eliminate inappropriate behavior. These conditions or events - called decelerators - may or may not involve reinforcement as such. Six different kinds of decelerators are generally recognized.

Note: Display Transparency 100-4-18.

1. Satiation

a. Earlier we described satiation, as being the opposite of deprivation. Satiation occurs when a client has been given too much of a reinforcer, so that the reinforcer ceases to be an effective tool for accomplishing behavioral change.

Note: Display Transparency 100-4-19.

2. Punishment

a. Another decelerator is punishment. Punishment refers to the administration of an aversive stimulus immediately after the occurrence of an inappropriate behavior.

EXAMPLE: A client gouges at his eyes until they bleed. The gouging behavior constitutes an inappropriate behavior. This behavior could be extinguished perhaps by use of an electric shock which is strong enough to be unpleasant but not cause any pain. Each time the client gouges at his eyes he is shocked. It does not take many times before the client learns that he should not gouge at his eyes.

b. It is important to remember that, in most behavior modification programs, punishment does not have to be used. Much better results can be gained ordinarily by use of positive reinforcement techniques. About the strongest form of punishment that can be usually justified consists of holding the client firmly and telling him, "No". Ordinarily, you will use punishment only in cases involving severe self-mutilative or aggressive behavior.

Note: Display Transparency 100-4-20.

3. Time-Out

   a. Time Out has been shown to be a very effective decelerator. This could involve either removing the client from a positively reinforcing situation or removing a positive reinforcement from the client.

      EXAMPLE: You are training a client to feed himself. Each approximation to the desired behavior that the client successfully completes constitutes a reward to the client since the client is able to get food from his plate to his mouth. The food, of course, is a positive reinforcement. If the client misbehaves or refuses to cooperate, the trainer removes either the client from the food or the food from the client for a short while. Eventually the client will learn not to misbehave during the training session.

   b. Most clients are usually reinforced positively by just being with or around other people. For this reason, placing a client in some form of isolation such as a quiet room can function as a decelerator. This is because it constitutes time-out from the positive, natural reinforcement of being able to be with other people. Do not confuse time-out with seclusion. The use of seclusion is governed by a TDMHMR Commissioner's Rule. Consult this rule before you seclude a client.

Note: Display Transparency 100-4-21.

4. Extinction

   a. As we discussed earlier, when no reinforcement - either positive or negative - is given for a particular response, the behavior will generally cease to occur. This occurrence is called extinction.

   b. Extinction can be used effectively to eliminate undesirable behavior which is related to a client's seeking attention. You can readily see that the attention-seeking behavior would be reinforced if you were to tell the client not to misbehave, because he would in fact be getting attention from you - even if it consists of only the harshly spoken words "shut up", or "Behave yourself."

c. It is not uncommon to find a client who feels neglected running around the area, screaming at the top of his or her lungs just so someone will tell him to stop. If the client's attention-seeking behavior is ignored, the client will eventually stop making such a distraction. This also works sometimes with instances of "crazy talk".

d. A difficulty with using extinction as a decelerator is that it usually requires longer than other decelerators to take effect. Unfortunately, during the time that the extinction decelerator is taking effect, the inappropriate behavior is still apt to be occurring. This could present difficulties when the inappropriate behavior involves screaming or other nerve racking behaviors or behavior which could be harmful either to the client or to others around him.

Note: Display Transparency 100-4-22.

5. Conditioning an Incompatible Behavior

a. Conditioning an incompatible behavior can be a very powerful decelerator. This simply involves teaching an appropriate behavior to the client which will substitute for an inappropriate behavior.

EXAMPLE: If a client hits someone every time he takes a broom into his hands, he could be taught how to sweep the immediate area around his bed by being rewarded with candy, tokens, or money for appropriate sweeping behavior. This would make sweeping desirable to him and would be a substitute for hitting, since it would be difficult to hit while sweeping. Sweeping behavior is basically incompatible with the act of hitting.

b. At times you can combine conditioning of an incompatible behavior with use of one of the other decelerators we discussed to provide an even more powerful decelerator. For example, if the client were to be put in the time-out room every time he hit someone and also reinforced for appropriate sweeping behavior, the undesirable tendency to hit would probably be eliminated faster than conditioning the incompatible behavior alone.

EXAMPLE: One of your client's causes much disruption by his incessant screaming as a mechanism for attention-getting. You decide to use extinction to reduce the incidence of attention-getting. You do this by ignoring the screaming of the client who is seeking attention, while concurrently teaching the client to play a game such as playing ball. In such an arrangement, the screaming will decrease, while the behaviors associated with playing ball will increase, since the ball playing is reinforced positively. The act of playing ball becomes a substitute for screaming. The client soon realizes he will get attention only for playing ball, not for screaming.

c. In conditioning incompatible behaviors to deal with attention-getting, it is important to realize that the client still needs attention or reinforcement for his good behavior, even though he may be quiet and not causing any trouble. We must remember that any client in an institutional setting is in a deprivation state with regard to attention, with any attention that can be given to him serving to help increase his good behavior.

6. Avoiding Conditions that Cause Inappropriate Behavior to Occur

The last type of decelerator we will discuss simply involves avoiding the conditions that cause an inappropriate behavior to occur.

EXAMPLE: A client repeatedly bangs his head on the floor because the noise level of the building upsets him. In such a case, you could move him to a quieter building, thus eliminating the undesirable behavior. However, many times this decelerator is not very effective. This is because it deals with the symptom rather than the actual cause of the undesirable behavior. It may be effective, however, where frustration is the symptom of the problem, since frustrating situations can often be avoided.

I. Schedules of Reinforcement

1. After you decide what reinforcement strategy you will be using to accelerate or decelerate client behaviors, you have to take a look at scheduling the reinforcement.

Note: Display Transparency 100-4-23.

2. The reinforcement schedule describes the frequency with which the reinforcement will be administered. Depending upon the circumstances, the reinforcement may be given continuously or intermittently.

Note: Display Transparency 100-4-24.

3. In continuous reinforcement, the "reward" or reinforcer is given after every trial. This type of reinforcement schedule is very effective in facilitating the initial acquisition of a skill or behavior.

Note: Display Transparency 100-4-25.

4. In intermittent reinforcement, the "reward" or reinforcer is given only after certain trials. There is no set pattern to administering the reinforcement. That is, the client has no way of knowing when the reinforcement will occur. This schedule functions much like the one involved in playing a slot machine. You know that eventually it will pay off with a reward, but you don't know exactly when - so you keep putting your nickle in and pulling the lever.

5. Intermittent reinforcement has several advantages over continuous reinforcement. One advantage is that behaviors acquired under an intermittent reinforcement schedule are more difficult to extinguish. Also, intermittent reinforcement increases the speed with which a client can react, because the response is not reinforced every time. Thus, the client can perform the skill or behavior more adequately, with time-out not being required after each trial for administration of reinforcement.

6. After continuous reinforcement has been administered to facilitate learning the desired behavior to a satisfactory degree and after intermittent reinforcement has been introduced to sustain the behavior, social reinforcement can many times be substituted for a primary reinforcement. The advantage here is that ultimately the client can perform the complete task, with the reinforcement being the client's feeling of self-satisfaction.

Note: Display Transparency 100-4-26.

J. Maintenance of Desirable Behavior Patterns

1. In addition to establishing desirable behavior patterns, we are also concerned with processes that keep behavior going once it has been learned. Earlier we saw that reinforcement is central to the acquisition and elimination of behavior. It is also equally important to behavior maintenance, for, when reinforcement is withdrawn, behavior weakens.

2. The critical question of how to maintain behavior centers on what reinforcers are used and how they are scheduled. Two important principles are involved in behavior maintenance.

   a. Behavior persists longer in the absence of reinforcement when such behavior has been reinforced on an intermittent schedule.

b. To establish an intermittent reinforcement schedule you gradually decrease the frequency of reinforcement.

3. Reinforcement Review

   a. As we have mentioned a number of times, if you wish to rapidly build new behavior, it is important to reinforce immediately and often. This is usually done after each correct response. When reinforcement follows each correct response, the schedule of reinforcement is called a continuous schedule. It is used in the early stages of behavioral development.

   b. Once behavior is well-established, it is better to reinforce on an intermittent basis. This is because continuously reinforced behavior tends to extinguish rapidly when reinforcement is withdrawn. In contrast, intermittently reinforced behavior tends to be highly resistant to extinction.

   c. The key procedure in establishing an intermittent schedule is the gradual shift from reinforcing every response to reinforcing only some responses. However, keep in mind that if the shift is made too quickly, behavior may extinguish instead of persisting.

K. Kinds of Intermittent Reinforcement Schedule

Note: Display Transparency 100-4-27.

Four kinds of intermittent schedules have been developed. The properties of these four schedules are summarized in the slide shown on the screen.

1. Fixed Ratio (FR)

   In this schedule, the reinforcer is given after each x number of responses.

2. Fixed Interval (FI)

   In this schedule, the reinforcer is given for the first response to occur after each x number of minutes.

3. Variable Ratio (VR)

   In this schedule, the reinforcer is given after x number of responses, on the average.

4. Variable Interval (VI)

   In this schedule, the reinforcer is given after each x number of minutes, on the average.

L. Differential Reinforcement As a Means of Establishing Discrimination

1. When a client responds in a different way to different people, or behaves in a different way in different places, we say that a discrimination has been established.

2. We use differential reinforcement to establish a discrimination. With differential reinforcement, a client is reinforced only when the desired behavior occurs (not being reinforced when the behavior fails to occur).

3. Differential reinforcement may also be used to reinforce desired behavior when it occurs in one place but not another, or to reinforce desired behavior in the presence of one person but not another.

M. Determining What Is Reinforcing and What is Not Reinforcing For the Client

Many times reinforcers can be identified by watching or observing a client to see what he or she does frequently. In general, that thing a person does often or does when he is given a choice is a possible reinforcer. We can also identify reinforcers by (1) asking a client what he or she would like to do or have, (2) by having the client check a list of possible reinforcers, or (3) by asking people who know what the client likes to do or does often to identify those events, objects, or circumstances which might be useful as reinforcers.

N. "Rules" For Using Reinforcers

Six rules for using reinforcers have been developed. They are:

1. Reinforce immediately.

2. Reinforce differentially (i.e. when the desired behavior occurs).

3. Reinforce in places where you want the behavior to occur.

4. Reinforce the behavior in the presence of people with whom you would like for the behavior to occur.

5. Reinforce continuously when a behavior is first being learned.

6. Reinforce intermittently (and unpredictably) once the behavior has started occurring regularly.

O. The Premack Principle

Note: Display Transparency 100-4-29.

1. The Premack Principle points out that a high frequency behavior can be used as a reinforcer for a low frequency behavior, the assumption being that the client "enjoys" those behaviors which he engages in frequently.

2. The Premack Principle is a very useful intervention strategy because it does not require that you provide the client with any token, tangible, or other external reinforcers. The reinforcers you need already exist in the client's natural repertoire of behaviors.

3. All you need is to identify your client's high and low frequency behaviors. Make two columns on a sheet of paper, one column for the high frequency behaviors (such as playing ball) and another for low frequency behaviors (such as giving turns). Observe your client's behavior and begin assigning his activity to one or the other of the two columns. Then you can utilize the simple strategy with your client: "If you perform this (low frequency behavior), then you can do this (high frequency behavior)." For a client who liked to watch television but who did not like to keep his area clean, you might be able to strike this bargain. "If you clean up your area, you may watch television for an hour."

NOTE TO INSTRUCTOR: If desired, adminster Quiz 100-4 at this time. Use the quiz results as a basis for clearing up misconceptions and reteaching material the students failed to grasp during the course of instruction.

III. Summary

During this period we observed that most "desirable" kinds of behavior (such as walking, talking, and doing homework) are learned. We also saw that "undesirable" kinds of behaviors (such as temper tantrums, whining, fighting, stealing, and cheating) are also learned. Throughout our lives each of us are continuously learning new behaviors and, at times, eliminating some.

We saw that behavior which is reinforced (rewarded) tends to be repeated and that behavior which is not reinforced is weakened or eliminated. Thus, if a behavior is to be learned (or strengthened) it must be accompanied by a reinforcer. We discussed several classes of reinforcers as being important. These included a positive reinforcer such as food, money, or toys, and a social reinforcer such as praise, a hug, a smile, or attention. We also saw that, by definition, an object or event qualifies as a positive reinforcer only if it increases the behavioral act it follows. Careful observation is required before we can determine what is a positive reinforcer for a given individual. For example, coffee would not be an appropriate reinforcer for a person who dislikes coffee, and games would not be appropriate reinforcers for a person who prefers personal attention to playing a game.

When we use the reinforcement approach to modify behavior, we have to keep the following factors in mind:

A. Make sure that the reinforcer you propose to use is viewed by the individual as being a "reward".

B. Always pair concrete reinforcers (such as food or cigarettes) with social reinforcers (Praise or attention). As you give the individual his reward say "very good", enthusiastically. This pairing of concrete and social reinforcers helps the individual become more responsive to social reinforcers, allowing you to use fewer and fewer concrete reinforcers to teach new behaviors, as time goes on.

C. Remember that reinforcers are most effective when they occur immediately after the behavior. A client who is praised immediately upon completing a desired part of a task will do better than the client who is praised only when the total task has been completed. A mistake frequently made in using the reinforcement approach is waiting too long after the client has acted before he is reinforced for a desirable behavior.

D. Use continuous reinforcement techniques when you want to establish a behavior. Continuous reinforcement is reinforcing a behavior every time it occurs. After the behavior is well established, use intermittent reinforcement (e.g. reinforcing the behavior every third or fourth time it occurs) to prevent the behavior from extinguishing.

E. You must be consistent and continue reinforcing desired behavior when it occurs. This is because if a response is not reinforced even after it is learned, it is likely to weaken. Positive reinforcement is necessary not only to teach a client desirable behaviors but also to maintain these desirable behaviors he has learned.

F. Avoid giving too much of a reinforcer. This will satiate the client and render the reinforcer ineffective.

G. A behavior must be reinforced many times before it is well established. It may take a large number of reinforcements to teach a mentally retarded child to go to the toilet by himself.

We also discussed the six "rules" that you should keep in mind when using reinforcement. They are:

1. Reinforce immediately.

2. Reinforce differentially.

3. Reinforce in the place you want behavior to occur.

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4. Reinforce in the presence of people with whom you want the behavior to occur.

5. Reinforce continuously when the behavior is first being learned.

6. Reinforce intermittently once the behavior has begun to occur regularly.

Programmed Student Handout 100-4
Code 76-7

Texas Department of Mental Health Mental Retardation

Concepts and Schedules of Reinforcement In Behavior Modification

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

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As we saw during our earlier discussions, an operant is an "emitted" behavior rather than an "elicited" behavior. We say that it is emitted because we are not certain concerning just what are the stimulating conditions. All that we know for sure is that the behavior occurs. On the other hand, in elicited response, we know what the stimulus is and are reasonably certain that the behavior occurred as a response to that particular stimulus.	
An operant is said to be ___________ rather than elicited because we are not certain of the ____________ conditions.	emitted stimulating
In operant conditioning studies, you try to arrange conditions in such a manner as to alter the rate at which an operant occurs or is emitted. You alter this rate by manipulating the consequences of the behavior. As we discussed earlier, these consequences are referred to as "reinforcers" or "reinforcement".	
In operant conditioning, we try to alter the ___________ at which an operant occurs or is emitted by manipulating the ___________ of the operant behavior.	rate consequences
Knowing just what reinforces behavior is of great concern in attempts to modify behavior. In this connection, we know that a reinforcer is any consequence that can increase or maintain the rate at which a behavior is emitted. To qualify as a reinforcer, the consequence has to "work". If the consequence had no effect upon the rate at which the behavior was emitted, it would not be a reinforcer. It would simply be another stimulus in the individual's environment.	
A reinforcer is any ___________ that can ___________ or ___________ the rate at which a behavior is emitted.	consequence increase maintain
There are two basic types of reinforcers: positive and negative. A positive reinforcer is a consequence or event that increases the rate of any behavior that it follows. In everyday terms, we would view this as a "reward". A negative reinforcer then is a consequence or event that increases the rate of any behavior when it is removed following the occurrence of that behavior. For example, a threat would be a negative reinforcer because it would tend to increase the rate	

of any behavior leading to its removal, such as a client learning his ABC's to avoid having to stay inside the classroom during recess, which has been "threatened" by the teacher.	
A positive reinforcer is a consequence or event that ____________ the rate of behavior that it follows.	increases
A negative reinforcer is a consequence or event that increases the rate of any behavior when it is ____________ following the occurrence of that behavior.	removed
If reinforcement is seen as an event or consequence that follows behavior, then the behavior can be said to "operate" so as to produce the reinforcement. The resulting relationship between the behavior and the reinforcing event is then said to be a "contingent" relationship. Quite simply, the reinforcement is produced by the behavior and is not available unless the behavior occurs.	
The relationship observed between an observed behavior and a reinforcing event is called a ____________ relationship because the reinforcement is produced ____________ the behavior and is not available unless the behavior ____________.	contingent by occurs
Earlier we indicated that four basic types of contingencies exist between behavior and the events that reinforce the behavior. The four types of contingent relationships we discussed are:	
1. Behavior resulting in the presentation of a positive reinforcer.	
This particular type of contingent relationship is the one which is frequently most employed in behavior modification programs. Here, if a person performs the behavior one is seeking, he is rewarded in some way. The reward may be one of many things such as food, money, a smile, the opportunity to engage in pleasant activities or to do something else that he likes to do. Importantly, if a reward is truly reinforcing to the person, the rate of behavior will increase.	
If a reward is truly reinforcing to the person, the rate of behavior will ____________.	increase

2. Behavior resulting in the presentation of a negative reinforcer.

The second type of relationship is one that is often called "aversive" stimulation. Frequently employed aversive stimuli are threats, physical punishment and ridicule. For example, parents train their young children not to touch certain objects by spanking their hands if they do. The anticipation is that the child will now refrain from touching the objects in order to escape the punishment. When this occurs, one can be said to be exercising aversive control over the child's behavior.

Reinforcers such as threats, physical punishment and ridicule are referred to as ___________ stimulation.

aversive

3. Behavior resulting in the removal of a positive reinforcer.

Another type of contingent relationship really qualifies as a form of "punishment". For example, we can punish by withholding what we know in fact to be positive reinforcers. We may put a client on restriction (having to stay inside for a week) because he or she failed to do assigned chores. In this case, we punish not by doing anything aversive to the client but by withholding opportunities to engage in behavior which is rewarding, such as playing outside.

One form of "punishment" which may be used in behavior modification is __________ what we know to be positive reinforcers.

withholding

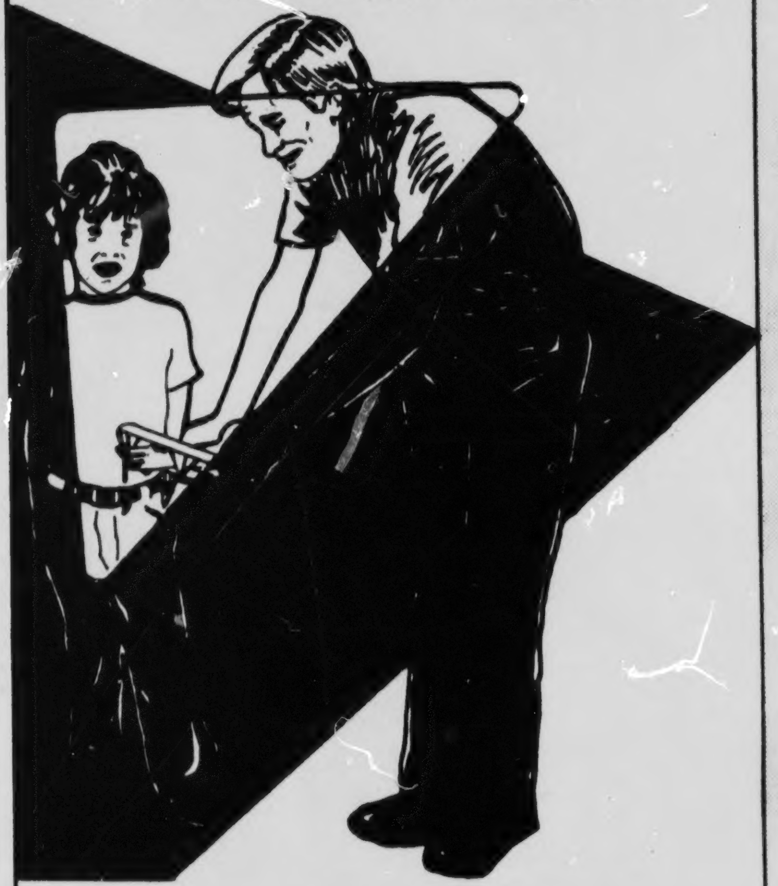
4. Behavior resulting in the removal of a negative reinforcer.

The last type of contingency relationship we discussed is in some ways a type of reward, even though it is not generally considered to be such. For example, a father may nag his teenage son in order to get him to take out the garbage. If he does so, the father will cease nagging. Behaviors that keep away nagggings, threats, scoldings, pain, and other negative reinforcers are frequently called "avoidance" behaviors. In other words, the person can avoid the negative - and undesirable - consequences by engaging in the desired behavior.

An important type of contingency relationship involves a person avoiding negative consequences by engaging in the ____________ behavior.	desired
In addition to these four basic contingent relationships, there is a fifth relationship used in behavior modification. This is the condition known as "extinction". This simply refers to the disruption of a contingency relationship so it no longer operates. A common approach is to remove a positive reinforcer, not so as to constitute a form of punishment, but simply as a means of causing the behavior to disappear. For example, a client may tell wild tales in order to get his parents' attention. However, if the parents refuse to pay attention to the client's stories, the behavior will tend to "extinguish" or disappear.	
Extinction involves ____________ of a contingency relationship so that it no longer operates. This is most commonly done by removing a positive ____________.	disruption reinforcer
REVIEW	
In general, we can say that behavior modification methods which use operant conditioning techniques will use one or the other of these five basic contingency operations. We know that behavior can be increased in terms of frequency or maintained merely by the addition of positive reinforcers (and/or the removal of negative reinforcers) We saw also that behavior can be removed from an individual's behavioral repertoire or markedly reduced through the process of extinction, which is nothing more than the removal of contingent events. Thus, we can see that behavior modification is based on attempts to arrange contingencies in such a way that desired behaviors are increased in frequency and maintained and undesired behaviors are either decreased in frequency or totally removed.	
Behavior modification is based on attempts to arrange ____________ in such a way that (1) desired behaviors are ____________ in frequency and maintained and (2) undesirable behaviors are either decreased in frequency or totally removed.	contingencies increased

REINFORCEMENT

Reinforcement is fundamental to behavior modification, with the strength and effect of a reinforcement having the capability of making or breaking a behavior modification program. It is essential that the right reinforcement be selected for the right client and that the reinforcement be administered correctly. As we saw earlier, reinforcement is a very encompassing term and is not restricted to a material object. It can be a word or glance or touch. In fact, reinforcement can be anything that accelerates the acquisition of behavior. It can be positive or negative.



Reinforcement can be a word, a glance or a touch!

200

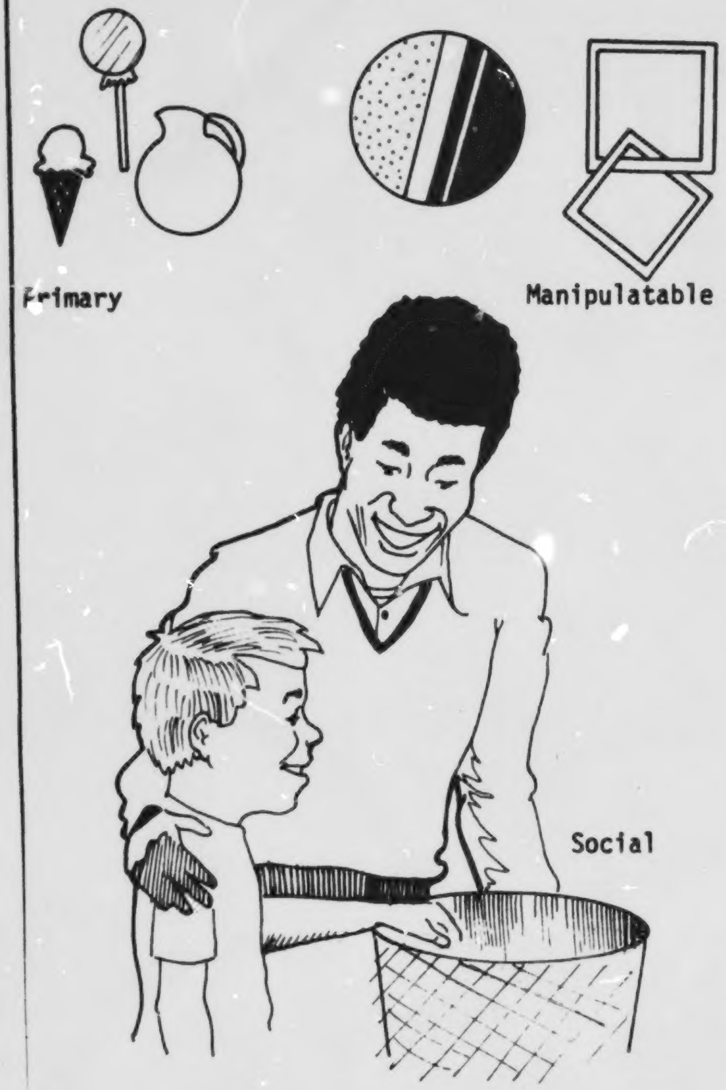

Primary
Manipulatable
Social

Figure 1. There are many kinds of reinforcers. One way to find out what is reinforcing for a particular individual is to observe his behavior over a period of time.

There are many kinds of positive reinforcers, several of which are important in operant conditioning. One concerns the primary reinforcers such as food or drink. Primary reinforcers can be anything from popcorn to Fritos to M&M's to Kool-Aid, and operate to meet a body need such as hunger or thirst. If a child undergoing training is hungry and he likes the reinforcement offered to him, he will work to acquire a desired behavior just to get the "reward". Primary reinforcements are especially effective when used in conjunction with deprivation. For example, if a client has been deprived of food for a certain period prior to training, he will probably be hungrier than he usually would be and can be expected to strive much harder to gain the reinforcement. This all tells us that effectiveness of a primary reinforcer depends largely on the length of time that the client has been without it.

Primary reinforcers operate to meet a body need such as ___________ or ___________.

hunger
thirst
(or other primary body drive)

Another important concept involves satiation, which is basically giving the client so much of a primary reinforcer that he does not want any more. If the client gets tired of the reinforcer (or becomes satiated) during training, he will not work towards acquiring the desired behavior. For this reason, the client should be given small amounts of a given primary reinforcer during training, so that the effect of the reinforcement will not be reduced by satiation.

To prevent ___________, a client should be given small amounts of a given primary reinforcer during training.

satiation

Another important kind of reinforcer which is used in training the mentally retarded is manipulatable reinforcers. Toys, games, activities, and situations that involve objects that can be handled fall into this general class of reinforcers. Some clients are fascinated by rubber balls, moving toys, or even a piece of string that can be dangled in front of his face. The manipulatable reinforcer, whatever it might be, will work more effectively if the client is deprived of it for a period of time prior to the training session. You should

keep in mind that manipulatable reinforcers may sometimes be disadvantageous, because more time may be needed to administer the reinforcement and the manipulatable reinforcement may be bulky. These are important considerations, for if the reinforcement is to be effective, it must be given immediately following the appropriate response, in such a manner that the client knows what behavior he displayed is being reinforced.	
Games, activities, and situations which involve objects that can be handled are referred to as ____________ reinforcers.	manipulatable
If the client is functioning at a sufficiently high level, tokens can be used in place of the actual reinforcer. To illustrate, you could equate a given number of tokens with the manipulatable reinforcer, a certain number of tokens being given for each incidence of a "desired" behavior. Then, after the client had earned the needed number of tokens, he would be allowed to play with the manipulatable reinforcer for a given length of time. Of course, the client must be able to understand that the tokens will enable him to have access to the desired reinforcer. Otherwise, the tokens themselves will be meaningless, and the child will not work to get them. With lower level clients, primary reinforcers (such as M&M's) are more effective, since they are easy to handle and can be given immediately. It is important to remember that a client's attention span may be short. For this reason, a quick, understandable and effective attention-getter (reinforcer) must be used.	
With lower level client's, it is better to use a ____________ reinforcer instead of tokens, such as may be used with higher level mentally retarded clients.	primary
At this point, you might ask the question, "Are there special techniques one can use in reinforcing with tokens to get maximum beneficial effect?" The answer is yes. There are ways that you can get maximum effect from the reinforcement process, particularly if you are able to maximize the potential for accompanying social reinforcement. When administering "token" reinforcers to a client, always try to maximize the use of the social reinforcement potential, which is inherent in the reinforcement situation by:	

1. looking at the person being reinforced.
2. telling the client how the tokens were earned.
3. praising the client warmly.
4. telling the client how you feel about him having earned the "tokens".
5. letting the client know that you understand how he feels about earning the tokens.
6. If appropriate, touch the client. This simple act can convey a great deal of warmth and understanding.

List the ways that you can maximize the use of social reinforcement when administering "token" reinforcers.

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________

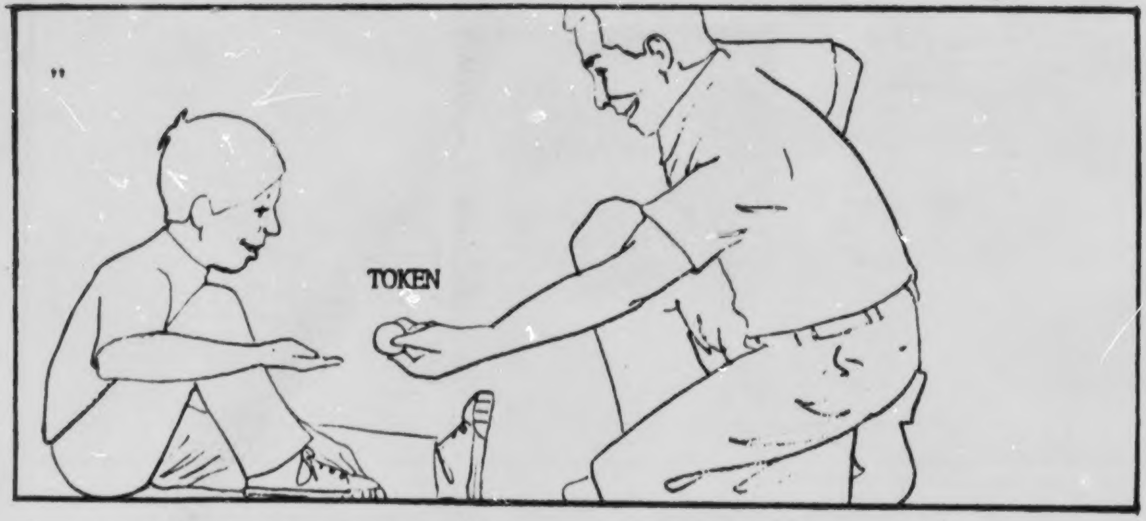
SOLUTION:

You can maximize the use of social reinforcement when administering "token" reinforcements by:

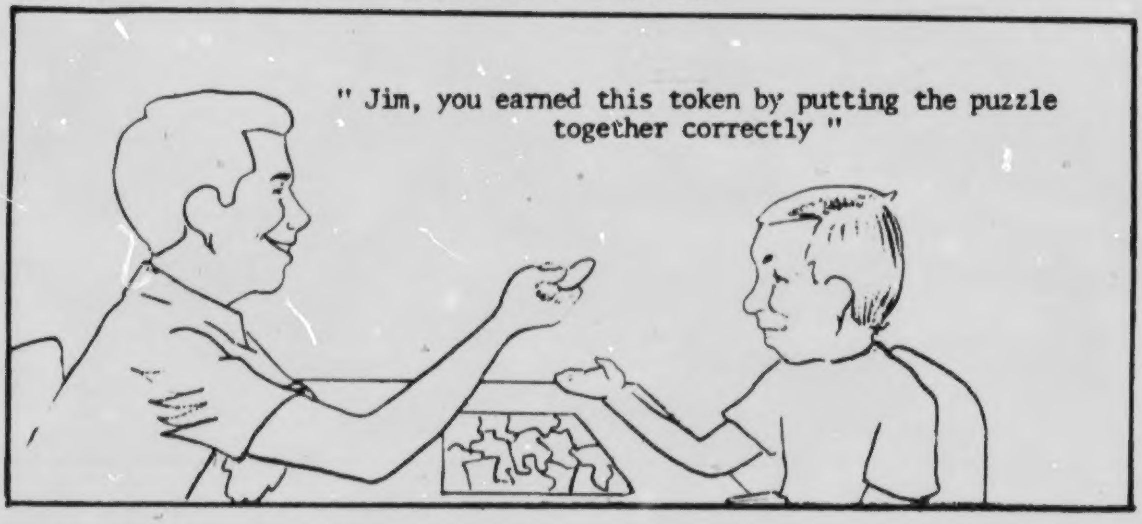
1. looking at the person being reinforced.
2. telling the recipient how the tokens were earned.
3. warmly praising the client.
4. telling the client how you feel about his having earned the tokens.
5. letting the client know you understand how he feels about earning the tokens.
6. touch the client to convey warmth and understanding.

Figure 2

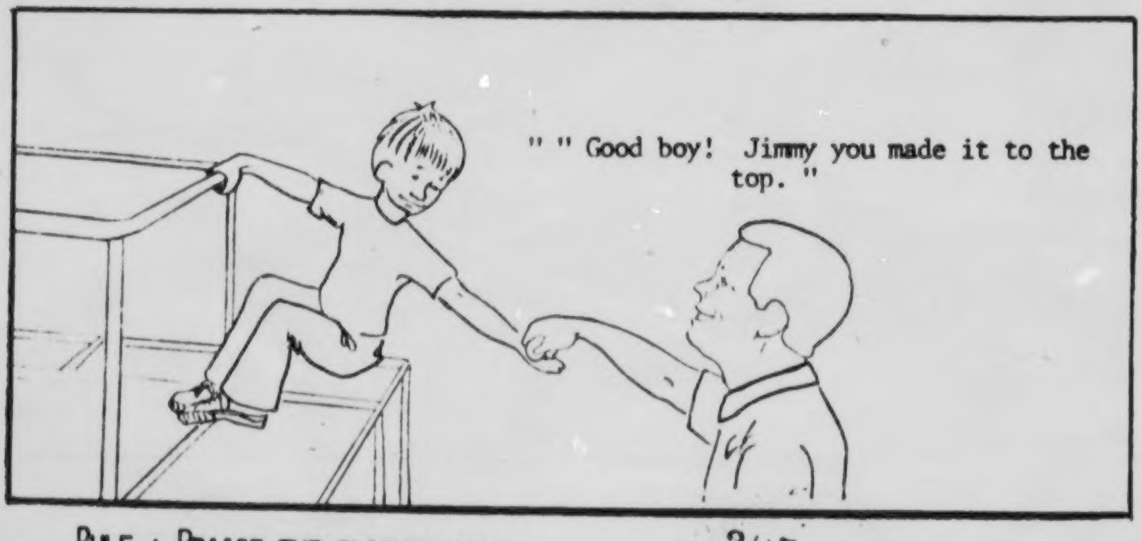
RULES FOR MAXIMIZING SOCIAL REINFORCMENT WHEN ADMINISTERING TOKEN REINFORCERS



RULE : RULE : LOOK AT PERSON BEING REINFORCED.

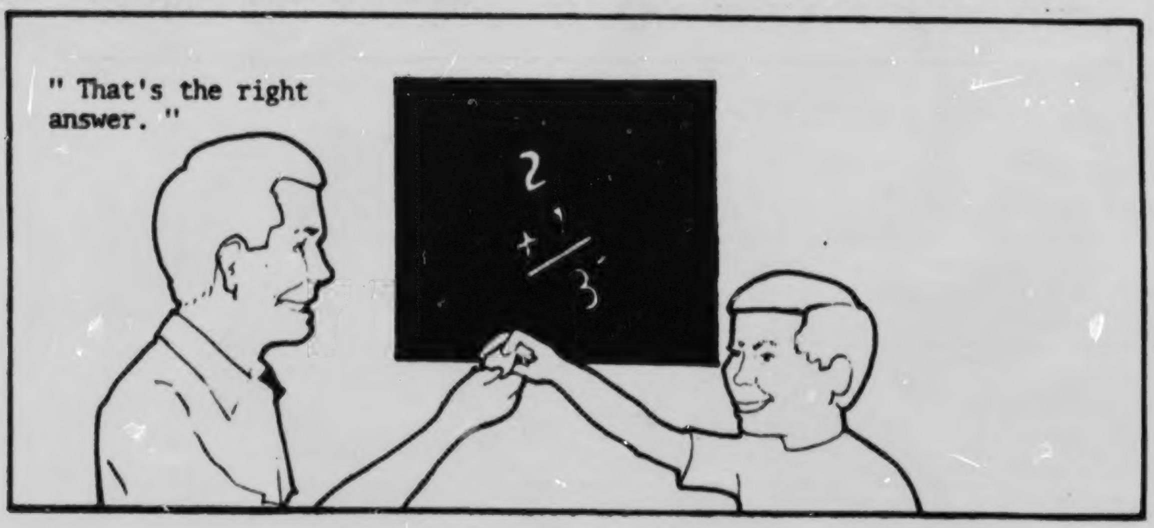

" Jim, you earned this token by putting the puzzle together correctly "

RULE : TELL CLIENT HOW REINFORCEMENT WAS EARNED.

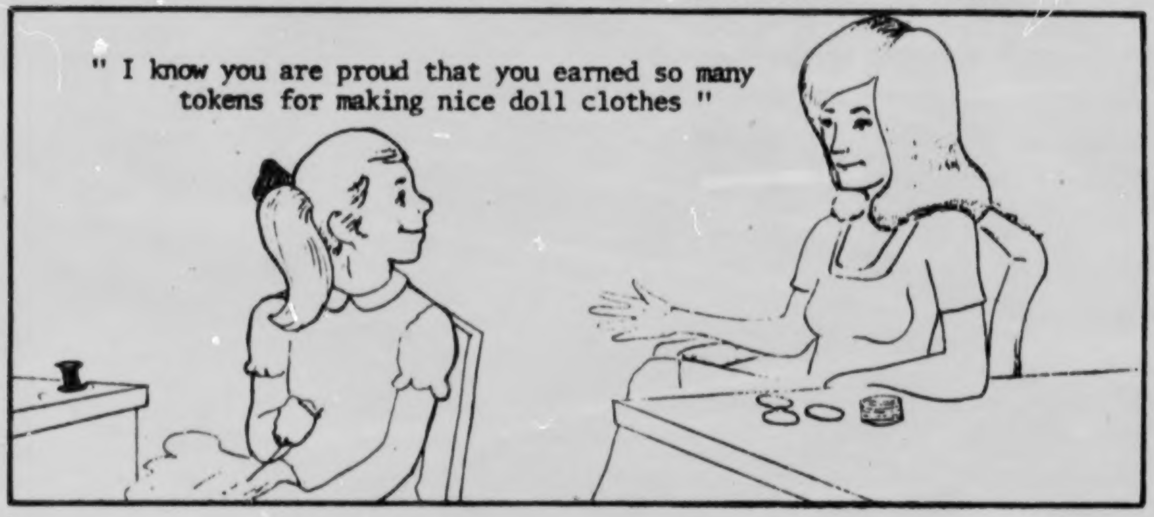

" " Good boy! Jimmy you made it to the top. "

RULE : PRAISE THE CLIENT WARMLY.

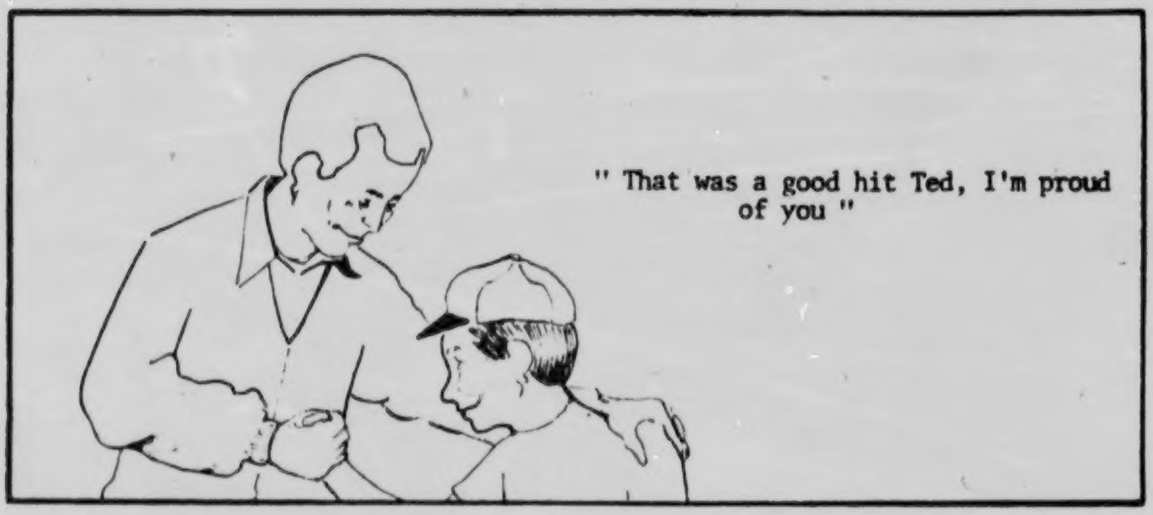
CONTINUATION - RULES FOR MAXIMIZING SOCIAL REINFORCMENT (TOKEN REINFORCERS)


" That's the right answer. "
2
+1
3

RULE : TELL THE CLIENT HOW YOU FEEL ABOUT HIM EARNING THE TOKEN.


" I know you are proud that you earned so many tokens for making nice doll clothes "

RULE : TELL THE CLIENT YOU UNDERSTAND HOW HE FEELS ABOUT EARNING THE TOKENS.


" That was a good hit Ted, I'm proud of you "

RULE : FEEL FREE TO TOUCH THE CLIENT TO CONVEY WARMTH AND UNDERSTANDING.

The third major class of reinforcers is social reinforcement. This refers to praise, affection, or attention--literally anything involving people as the reinforcing agent. For some clients a hug, a "good boy", a pat on the back or the opportunity to play with someone he likes can be a great incentive to learn. This is particularly the case in institutions, because affection and attention are normally in short supply in a residential facility. This absence operates to deprive the client of social reinforcement. This state of deprivation causes social reinforcers to exert a very strong effect, since everyone needs attention and love in one form or another. Many times the deprivation is so great that the mere presence of the behavior modifier is enough of a reinforcer to motivate a client to learn. In general, it can be said that the higher the level on which the client functions intellectually, the more effective will be the social reinforcer.

Praise, affection, and attention are called ____________ reinforcers. They, as other reinforcers, seem to function better when the individual is in a ____________ state.	**social** **deprived**

A PRACTICAL EXAMPLE

A retarded client who is learning a relatively complex task - such as learning to tie a shoe - must first learn the basic, tedious parts of the task such as (1) crossing over the laces and (2) putting the strings through the eyes of the shoe. With the retarded, these basic parts of the task usually must be taught by using either primary or manipulatable reinforcers. However, once the basic skill has been learned, social reinforcers generally can be used to integrate the various parts and to strengthen the basic elements. Frequently, the retarded client can learn behaviors in situations where social reinforcers alone are used. Actually, if the client functions at a reasonably high level, social reinforcement works as well as it does for "normally" intelligent individuals.

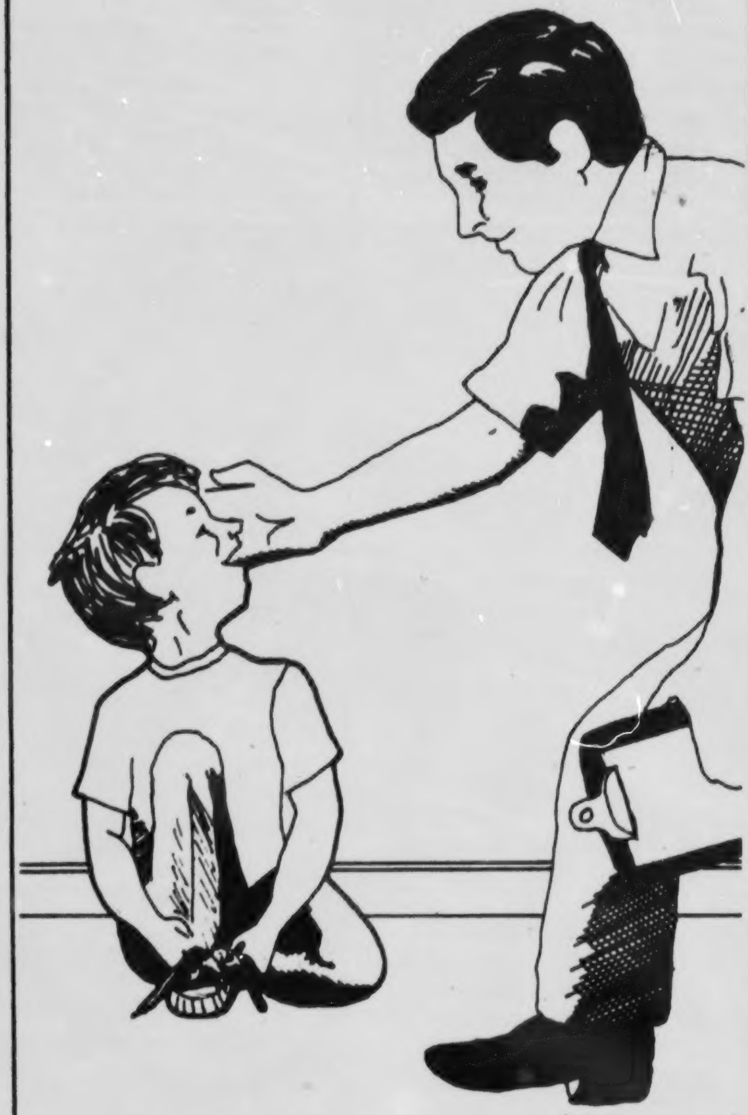


Figure 3. After using primary reinforcers to establish proficiency with various parts of a task - such as tying a shoe lace - use social reinforcement (such as an approving word or a pat on the head) to integrate the various parts.

QUIZ:

1. Social reinforcement refers to ___________, ___________, or ___________ or literally anything involving ___________ as the reinforcing agent.
2. In a residential facility, social reinforcers such as ___________ and ___________ are usually in short supply, thus creating a state of deprivation which renders them extremely effective.
3. The higher the level on which a client functions ___________, the more effective will be the ___________ reinforcer.

SOLUTION TO QUIZ:

1. praise, affection, attention, people
2. affection, attention
3. intellectually, social

In general, the basic tedious parts of a skills learning situation can best be handled by use of ___________ or ___________ reinforcers. Integration of the various parts of a task can best be managed by using ___________ reinforcers.

primary
manipulatable
social

Social reinforcement can also be used in conjunction with primary and manipulatable reinforcement in yet another way. In this particular application the social reinforcer is called a bridging signal and is used to "tie" the client's response together with the reinforcer. This is sometimes necessary since many times the reinforcement cannot be administered fast enough to let the client know exactly what it is that he is being reinforced for. In this type of situation, the time interval between response and reinforcement is covered by the worker administering a "good boy" or a pat on the back. This is important, because if a client does not know which of his responses is being reinforced, he may wind up learning the "wrong" behavior. Effective use of a bridging signal can help guard against the individual learning the "wrong" behavior.

If a worker is unable to provide immediate reinforcement by means of a manipulatable reinforcer (such as permitting a client to work a puzzle), he may use a social reinforcer (such as "good boy") as a ___________.

bridging signal

DECELERATORS:

Decelerators are conditions or events that retard or eliminate inappropriate behavior. They may or may not involve reinforcement. Generally, six different kinds of decelerators are recognized.

SATIATION. The first decelerator, satiation, was described earlier as being the opposite of deprivation. Satiation occurs when a client has been given too much of a reinforcer, so that the reinforcement ceases to be an effective training tool. At times, a worker may deliberately attempt to bring about satiation, so as to eliminate an inappropriate behavior, such as hoarding. For example, a resident at a state institution for the retarded liked towels so much that whenever she found a loose towel, she would hide it under the mattress of her bed. This presented problems to the dormitory staff since if the towels were under the resident's mattress they were unable to inventory accurately or send the towels to the laundry. The staff decided to use satiation as a means for eliminating the hoarding behavior and supplied the resident with all of the towels that she wanted, allowing her to place them all under her mattress. Eventually, there were so many towels under the mattress that sleeping became very uncomfortable for the resident. Before long, the resident decided that she did not need all of those towels after all and stopped hoarding the towels.

If a worker wishes to retard or eliminate inappropriate behavior he may employ a ____________.

decelerator

One decelerator he might use involves giving the client too much of a reinforcement. This is called ____________.

satiation

Another decelerator is punishment. Punishment refers to the application of an aversive stimulus immediately after the occurrence of an inappropriate behavior. For example, a client abuses himself by banging his head against the wall. The head banging constitutes an inappropriate behavior. This behavior could be extinguished perhaps by use of an electric shock which is strong enough to be unpleasant but not cause any harm. Each time the client bangs his head he is shocked. It does not take many times before the client learns that he should not bang his head. It is important to

remember that, with most clients, punishment does not have to be used. Much better results can be gained ordinarily by use of positive reinforcement techniques. About the strongest form of punishment that can be justified during most behavior modification programs consists of holding the client firmly and telling him, "No". Punishment, while effective as a decelerator, is NOT recommended for use in behavior modification programs. _____ True _____ False	True
Time-Out has been shown to be a very effective decelerator. Time-out could involve either removing the client from a positively reinforcing situation or removing a positive reinforcement from the client. Time-out has been shown to be especially effective in training a client how to spoon-feed himself. For example, each approximation to the desired behavior that the client successfully completes constitutes a reward to the client since the client is able to get food from his plate to his mouth. The food, of course, is a positive reinforcement. If the client misbehaves or refuses to cooperate, the worker removes either the client from the food or the food from the client for a short while. Eventually the client will learn not to misbehave during the behavior modification program. Many clients are reinforced positively by just being with or around other people. For this reason, placing a client in the corner, or in some cases of extreme misbehavior, placing the client in some form of isolation such as a quiet room can function as a decelerator. This is because it constitutes time-out from the positive, natural reinforcement of being able to be with other people. The decelerator known as ___________ refers to either removing the client from a positively reinforcing situation or removing a positive reinforcement from the client.	time-out

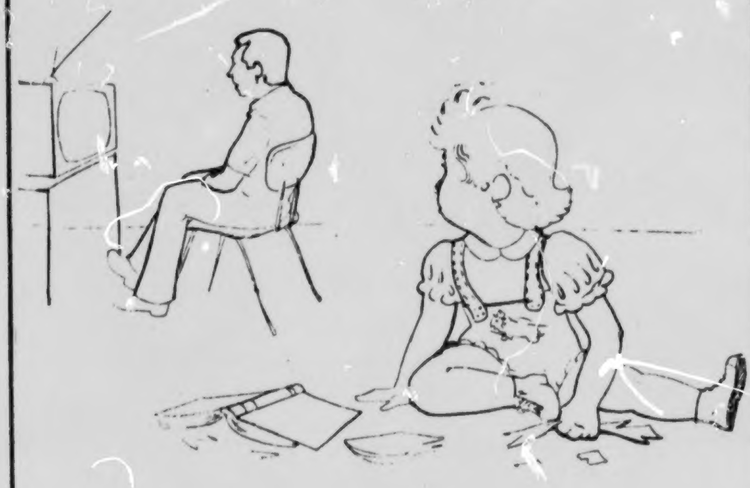


Figure 4. At times, destructive behaviors may cease to occur if you just ignore them. Frequently such acts are merely bids for attention, which if given, tend to reinforce the undesirable behavior.

Another decelerator is extinction. As we discussed earlier, when no reinforcement - either positive or negative - is given for a particular response, the behavior will generally cease to occur. This phenomenon is called extinction. Extinction can be used effectively to eliminate undesirable behavior which is related to a client's seeking attention. You can readily see that the attention-seeking behavior would be reinforced if you were to tell the client not to misbehave, because he would in fact be getting attention from you - even if it consists of only the harshly spoken words, "Shut-Up".

It is not uncommon to encounter a client who feels neglected running around the playroom, screaming at the top of his lungs just so someone will tell him to stop. If the client's attention-seeking behavior is ignored, he will eventually stop making such a distraction.

A difficulty with extinction as a decelerator is that it usually requires longer than other decelerators to take effect. Unfortunately, during the time the extinction decelerator is taking effect, the inappropriate behavior is still apt to be

occurring. This could present difficulties when the inappropriate behavior involves screaming or other nerve racking behaviors or behavior which could be harmful either to the client or to those around him.	
If an undesirable behavior is not reinforced, it will eventually disappear. This phenomenon is called ____________. One disadvantage of extinction is that it usually requires longer than other ____________ to take effect.	**extinction** **decelerators**
A very powerful decelerator consists of conditioning an incompatible behavior. This simply involves teaching an appropriate behavior to the client which will substitute for an inappropriate behavior. For example, if a client hit someone every time he took a broom into his hands, he could be taught how to sweep by being rewarded with candy, tokens, or money for appropriate sweeping behavior. This would make sweeping desirable to him and would be a substitute for hitting, since it would be difficult to hit while sweeping. Sweeping behavior is basically incompatible to the act of hitting.	
Sometimes you can combine conditioning an incompatible behavior with use of one of the other decelerators, to provide an even more powerful decelerator. For example, if the client were to be put in the time-out room every time he hit someone and also reinforced for appropriate sweeping behavior, the undesirable tendency to hit would probably be eliminated faster than conditioning the incompatible behavior alone.	
At times, you may wish to substitute an appropriate behavior for one which is inappropriate. This involves use of the decelerator referred to as "conditioning an ____________ behavior".	**incompatible**
At times, it may be effective to ____________ the process of conditioning an incompatible behavior with another ____________.	**combine** **decelerator**
A worker uses extinction to reduce the incidence of attention-getting. He does this by ignoring the screaming of the client who is seeking attention, while concurrently teaching the client to play a game such as ball. In such an arrangement, the screaming will decrease, while the behaviors associated with playing ball will increase, since the ball playing is reinforced positively. The act	

of playing ball has become a substitute for screaming. The client soon realizes he will get attention only for playing ball, not for screaming. The worker should realize that the client still needs attention or reinforcement for his good behavior, even though he may be quiet and not causing any trouble. We must remember that any client in an institutional setting is in a deprivation state with regard to attention, with any attention that can be given to him serving to help increase his good behavior.

The last type of decelerator we will discuss simply involves avoiding the conditions that cause an inappropriate behavior to occur. For example, if a client repeatedly bangs his head on the floor because the noise level of the building upsets him, he could be moved to a quieter building, thus eliminating the undesirable behavior. Many times this decelerator is not very effective because it deals with the symptom rather than the actual cause of the undesirable behavior. It is often effective, however, where frustration is the symptom of the problem, since frustrating situations can often be avoided.

At times, it may be necessary to ___________ the conditions that cause an inappropriate behavior to occur.

avoid

SCHEDULES OF REINFORCEMENT:

Once the worker determines the appropriate accelerator or decelerator, he must set up a schedule of reinforcement. This schedule usually describes the frequency with which the positive reinforcement will be administered. Depending upon the circumstances, the reinforcement may be given intermittently or continuously. In continuous reinforcement, the "reward" is given after every trial. In intermittent reinforcement, it is given only after certain trials. In an intermittent reinforcement schedule, there is no set pattern to administering the reinforcement. That is, the client has no way of knowing when the reinforcement will occur. This schedule functions much like the one involved in playing a slot machine. You know that eventually it will pay off with a reward, but you don't know exactly when - so you keep putting your nickle in and pulling the lever.

Schedules of reinforcement refer to the _________ with which a "reward" is administered. The two

frequency

types of schedules are ___________ and ___________.

continuous
intermittent

Intermittent reinforcement has several advantages over continuous reinforcement. One advantage is that behaviors acquired under an intermittent reinforcement schedule are more difficult to extinguish. Also, intermittent reinforcement increases the speed with which a client can react, because the response is not reinforced every time. Thus, the client can perform the skill or behavior more adequately, with time-out not being required after each trial for administration of reinforcement.

Behaviors established under intermittent reinforcement schedules are more difficult to ______________.

extinguish

After a client has been administered continuous primary reinforcement to facilitate learning the task elements to a satisfactory degree and after intermittent reinforcement has been introduced to sustain the behavior, social reinforcement can many times be substituted for the primary reinforcement, so that ultimately the client can perform the complete task, with the reinforcement being the client's feeling of self-satisfaction.

As discussed earlier, in addition to establishing desirable behavior patterns, we are also concerned with processes that keep behavior going once it has been learned. In this connection, we have already noted that reinforcement is central to the acquisition and elimination of behavior. It is also equally important to behavior maintenance, for when reinforcement is withdrawn, behavior weakens.

Reinforcement is central to the ___________, ___________, and ___________ of behavior.

acquisition
elimination
maintenance

The critical question of how to maintain behavior centers on what reinforcers are used and how they are scheduled. Two important principles are involved in behavior maintenance.

1. Behavior persists longer in the absence of reinforcement when such behavior has been reinforced on an intermittent schedule.

2. To establish an intermittent reinforcement schedule you gradually decrease the frequency of reinforcement.

Behavior persists longer after reinforcement has been terminated when the behavior was reinforced on an ____________ schedule.

intermittent

In establishing an intermittent reinforcement schedule, you gradually ____________ the frequency of reinforcement.

decrease

As we have mentioned a number of times, if you wish to rapidly build new behavior, it is important to reinforce immediately and often. This is usually done after each correct response. When reinforcement follows each correct response, the schedule of reinforcement is called a continuous schedule. It is used in the early stages of behavioral development.

Once behavior is well-established, it is better to reinforce on an intermittent basis. This is because continuously reinforced behavior tends to extinguish rapidly when reinforcement is withdrawn. In contrast, intermittently reinforced behavior tends to be highly resistant to extinction. As we mentioned, the key procedure in establishing an intermittent schedule is the gradual shift from reinforcing every response to reinforcing only some responses. Keep in mind that if the shift is made too quickly, behavior may extinguish instead of persisting.

In establishing desired behaviors, you should use a ____________ reinforcement schedule. To maintain the behavior once it has become established, you should gradually shift to an ____________ reinforcement schedule.

continuous

intermittent

In an intermittent reinforcement schedule, you ____________ shift from reinforcing ____________ response to reinforcing only ____________ responses.

gradually
every
some

KINDS OF INTERMITTENT REINFORCEMENT SCHEDULES:

Four kinds of intermittent schedules have been developed. The properties of these four schedules are summarized in Table I on the following page.

TABLE I - TYPES OF INTERMITTENT REINFORCEMENT SCHEDULES

Type of Schedule	How It Functions	Effects on Behavior: While Schedule is in Effect	Effects on Behavior: After Schedule Has Been Terminated (Extinction)
FIXED RATIO (FR)	Reinforcer is given after each X number of responses.	High response rate is typical.	Irregular burst of responding. More responses than in continuous reinforcement but less than in variable ratio.
FIXED INTERVAL (FI)	Reinforcer is given for first response to occur after each X number of minutes.	Subject stops working after reinforcement. Works hard just prior to time for next reinforcement.	Slow gradual decrease in response rate.
VARIABLE RATIO	Reinforcer is given after X number of responses on the average.	Very high response rates observed. The higher the ratio the higher the rate.	Very resistant to extinction.
VARIABLE INTERVAL (VI)	Reinforcer is given for first response after each X number of minutes on the average.	Steady response rate is typical.	Very resistant to extinction.

How do we determine what is reinforcing and what is not? Many times reinforcers can be identified by watching or observing a client to see what he or she does frequently. In general, that thing a client does often or does when he is given a choice is a possible reinforcer. We can also identify reinforcers by (1) asking a client what he or she would like to do or have, (2) by having the client check a list of possible reinforcers, or (3) by asking people who know what the client likes to do or does often to identify those events, objects, or circumstances which might be useful as reinforcers.

How might you identify reinforcers?

1. ______________________________
2. ______________________________
3. ______________________________

SOLUTION TO QUIZ:

1. Ask a client what he or she likes to do.
2. By having the client check what he or she likes to do on a list provided.
3. By asking people who know the client what might be used as a reinforcer.

Six rules for using reinforcers have been developed. They are:

1. Reinforce immediately.
2. Reinforce differentially (i.e. when the desired behavior occurs).
3. Reinforce in places where you want the behavior to occur.
4. Reinforce the behavior in the presence of people with whom you would like for the behavior to occur.
5. Reinforce continuously when a behavior is first being learned.
6. Reinforce intermittently (and unpredictably once the behavior has started occurring regularly.

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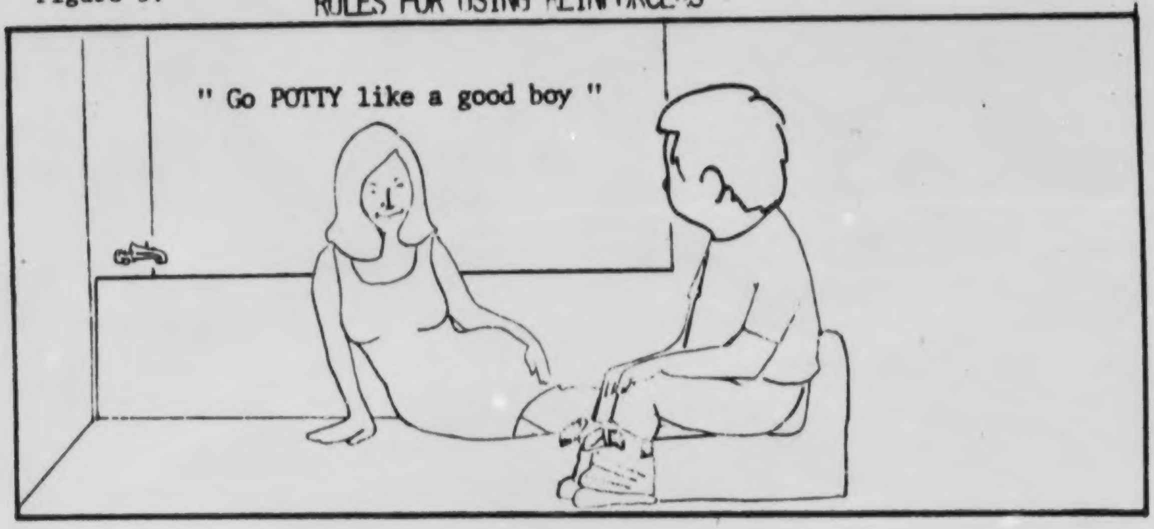
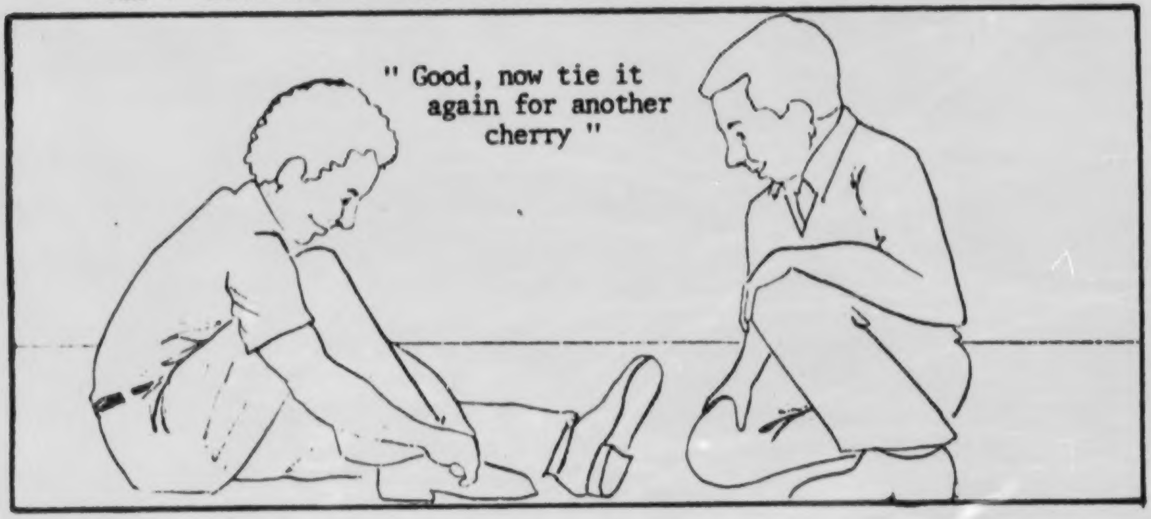
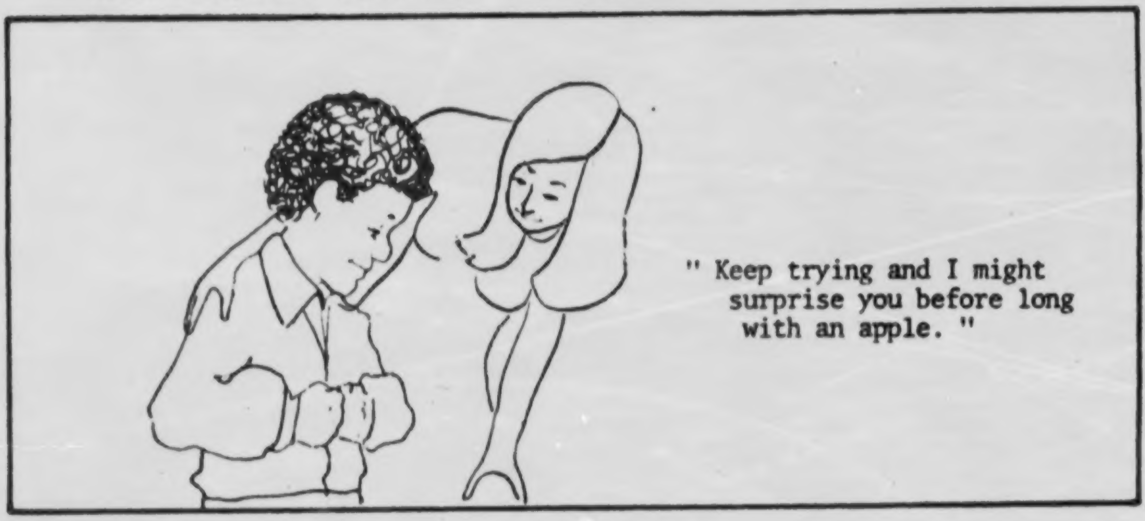
Figure 5. RULES FOR USING REINFORCERS


" Go POTTY like a good boy "

RULE : REINFORCE IN PLACE WHERE BEHAVIOR IS TO OCCUR.

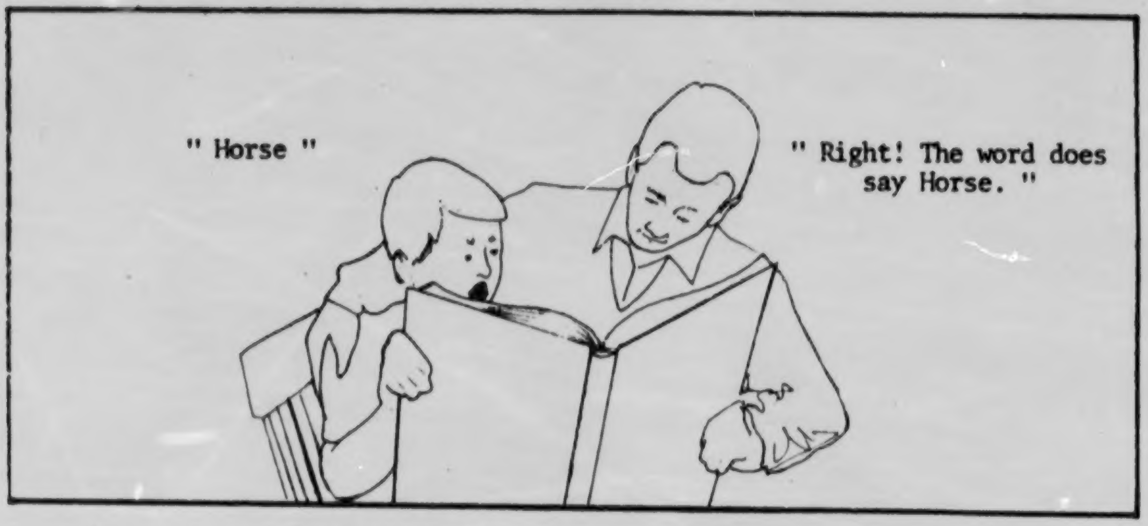

" Good, now tie it again for another cherry "

RULE: REINFORCE CONTINUOUSLY WHEN BEHAVIOR IS FIRST BEING LEARNED.

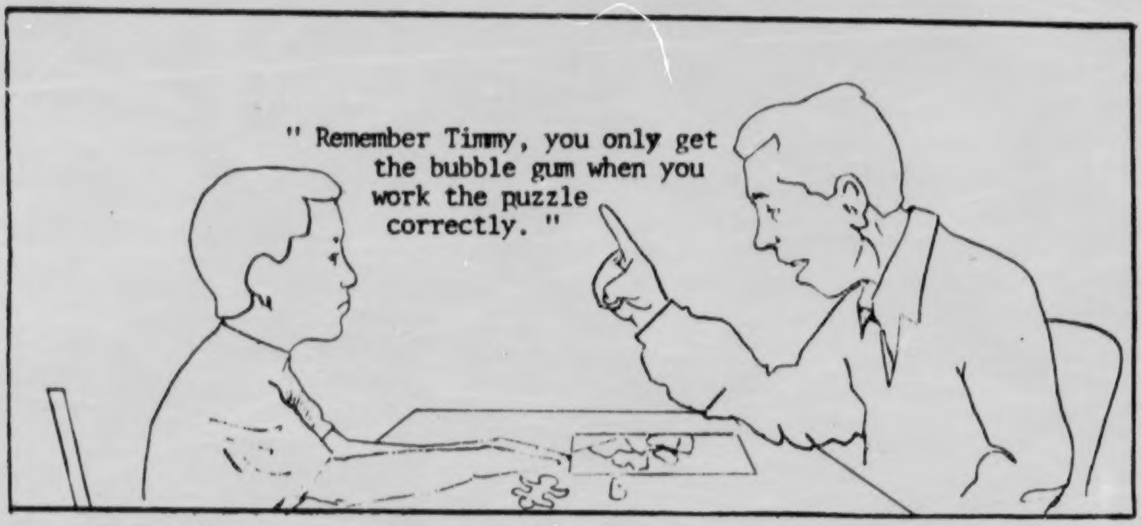

" Keep trying and I might surprise you before long with an apple. "

RULE : REINFORCE INTERMITTENTLY ONCE BEHAVIOR IS OCCURING REGULARLY.

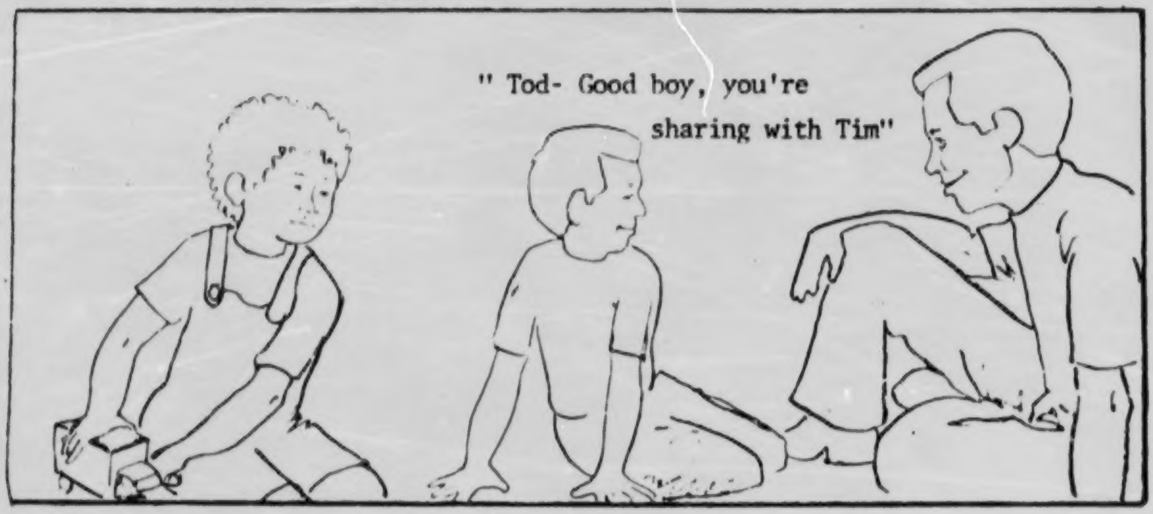
Figure 5. RULES FOR USING REINFORCERS CON'T.


" Horse "
" Right! The word does say Horse. "

RULE : REINFORCE IMMEDIATELY.


" Remember Timmy, you only get the bubble gum when you work the puzzle correctly. "

RULE : REINFORCE DIFFERENTIALLY , REWARDING DESIRED BEHAVIOR RESPONSES WHILE IGNORING OTHERS.


" Tod- Good boy, you're sharing with Tim"

RULE : REINFORCE IN PRESENCE OF PEOPLE WITH WHOM YOU WANT THE BEHAVIOR TO OCCUR.

QUIZ:

What are the six rules which have been developed for using reinforcers?

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________

SOLUTION TO QUIZ:

1. Reinforce immediately.
2. Reinforce differentially.
3. Reinforce in the place you want behavior to occur.
4. Reinforce in the presence of people with whom you want the behavior to occur.
5. Reinforce continuously when the behavior is first being learned.
6. Reinforce intermittently once the behavior has begun to occur regularly.

THE PREMACK PRINCIPLE:

The Premack Principle states that a high frequency behavior can be used as a reinforcer for a low frequency behavior. The Premack Principle is a very useful intervention strategy because it does not require that you provide the client with any token, tangible, or other external reinforcers. The reinforcers already exist in the client's natural repertoire of behaviors. All you need is to identify your client's high and low frequency behaviors. Then you can utilize the simple formula: "if you perform this (low frequency behavior) then you can do this (high frequency behavior)."

EXAMPLE: John loves to watch television and does so as often as he is allowed to (high frequency). However, he seldom cleans up the area around his bed (low frequency behavior). Using the Premack Principle, you would strike a bargain like this, "John, if you clean up your area, then you can watch television for an hour." What you are doing is to use a high frequency behavior (watching television) to reinforce a low frequency behavior (cleaning up).

The Premack Principle states that a ____________ frequency behavior can be used as a reinforcer for a ____________ frequency behavior.

high

low

Now that we have discussed the various aspects of reinforcement, let's take a look at another very important matter. This involves methods for getting the client to understand instructions. For, unless the client understands what it is you want, your reinforcement program will fail to accomplish what it is that you are after.

THE NEED TO GET THE CLIENT TO UNDERSTAND INSTRUCTIONS:

One of the most basic steps in effective behavior modification is to get the client to understand the instructions that he or she is given. Many clients do not understand language as well as the "normal" person does. As a result, the client may be more easily confused or distracted. For these reasons you should take care to make sure the client understands exactly what it is that you want him to do. Otherwise, your attempts at reinforcing will not work.

The client must ____________ what it is that you want him to do before reinforcement will work.

understand

You can take three steps to help the client understand instructions:

1. Use simple phrases or sentences.
2. Use gestures.
3. Use physical prompts.

USE OF SIMPLE PHRASES OR SENTENCES:

Since the client may have trouble understanding instructions, it is important that you break down your instructions into the simplest possible terms. It will also help if you use the client's name before every command. This is because you must have the client's attention before you can give instructions. Otherwise, the client will not understand and will be unable to carry out the instructions you give, no matter how good your program is. To make sure that you have the client's attention, say the client's name each time before you give instructions or commands.

To make sure that you have the client's attention, you should ____________ the client's ____________ each time before you give instructions or commands.

say
name

Since many clients have difficulty understanding verbal instructions, use only key words or phrases. This will help keep the client from becoming confused. Remember: (1) Key phrases or words will not be understood unless they are given one at a time, and (2) You must be consistent in using the same key phrases or words during every behavior modification session. Otherwise, the client will become confused and will be unable to carry out the instructions you give.

Give key phrases or words ____________ at a time.
Be ____________ in your use of key phrases and words.

One
consistent

REVIEW:

1. Use the client's name before every command.
2. Rely on key words and phrases.
3. Emphasize key words and phrases.
4. Give one command at a time.
5. Consistently use the same command.

USE OF GESTURES:

Gestures can be very useful in modifying a client's behavior. When combined with instructions, gestures allow the client to see as well as to hear what you want him to do.

When combined with instructions, ____________ allow the client to see as well as to hear what you want him to do.

gestures

USE OF PHYSICAL PROMPTS:

Some clients will not be able to understand what you want them to do even when you use words and gestures together. When words and gestures are not enough, you may have to move the client's body or limbs in addition to using words and gestures. This is called physical prompting. Prompting consists of giving the client special cues that direct his attention toward the task that you are attempting to teach them. These cues usually consist of physical manipulation of some part of the client's body, such as taking the client's hand to demonstrate the brushing action required in brushing the teeth.

In physical prompting, you physically ___________ some part of the client's body to demonstrate what it is that you want him to do.

move

REVIEW: GETTING THE CLIENT TO UNDERSTAND

1. Use simple words and phrases. This allows the client to HEAR what he or she has been instructed to do.
2. Use gestures. This allows the client to SEE what he or she has been instructed to do.
3. Use physical prompts. This allows the client to FEEL what he or she is supposed to do.

SUMMARY:

In our discussions, we observed that most "desirable" kinds of behavior (such as walking, talking, and doing homework) are learned. We also saw that "undesirable" kinds of behaviors (such as temper tantrums, whining, fighting, stealing, and cheating) are also learned. Throughout our lives each of us are continuously learning new behaviors and, at times, eliminating some.

We saw that behavior which is reinforced (rewarded) tends to be repeated and that behavior which is not reinforced is weakened or eliminated. Thus, if a behavior is to be learned (or strengthened) it must be accompanied by a reinforcer. We discussed several classes of reinforcers as being important. These included a positive reinforcer such as food, money, or toys and a social reinforcer such as praise, a hug, a smile, or attention. We also saw that, by definition an object or event qualifies as a positive reinforcer only if it increases the behavioral act it follows. Careful observation is required before we can determine what is a positive reinforcer for a given individual. For example, coffee would not be an appropriate reinforcer for a client who dislikes coffee, and games would not be appropriate reinforcers for a client who prefers personal attention to playing a game.

When we use the reinforcement approach to modify behavior, we have to keep the following factors in mind:

1. Make sure that the reinforcer you propose to use is viewed by the individual as being a "reward".

2. Always pair concrete reinforcers (such as food or cigarettes) with social reinforcers (praise or attention). As you give the individual his reward say "very good" enthusiastically. This pairing of concrete and social reinforcers helps the individual become more responsive to social reinforcers, allowing you to use fewer and fewer concrete reinforcers to teach new behaviors as time goes on.

3. Remember that reinforcers are most effective when they occur immediately after the behavior. A client who is praised immediately upon completing a desired part of a task will do better than the client who is praised only when the total task has been completed. A mistake frequently made in using the reinforcement approach is waiting too long after the person has acted before he is reinforced for a desirable behavior.

4. Use continuous reinforcement techniques when you want to establish a behavior. Continuous reinforcement is reinforcing a behavior every time it occurs. After the behavior is well established, use intermittent reinforcement (e.g. reinforcing the behavior every third or fourth time it occurs) to prevent the behavior from extinguishing.

5. You must be consistent and continue reinforcing desired behavior when it occurs. This is because if a response is not reinforced even after it is learned, it is likely to weaken. Positive reinforcement is necessary not only to teach a person desirable behaviors but also to maintain these desirable behaviors he has learned.

6. Avoid giving too much of a reinforcer. This will satiate the person and render the reinforcer ineffective.

7. Remember a behavior must be reinforced many times before it is well established. It may take a large number of reinforcements to teach a mentally retarded child to go to the toilet by himself.

ELIMINATING UNDESIRABLE BEHAVIORS:

1. Extinction. Since behavior is governed by its consequences, one of the best ways of extinguishing undesirable behavior is by not providing pleasing consequences. Sometimes all this involves is to ignore the behavior altogether. This can be very effective because many individuals would rather be noticed and punished than not to be noticed at all. The process of ignoring a behavior until it disappears because it has not received any reinforcement describes the process of extinction. Extinction is the only method for completely extinguishing a behavior. Other methods (such as punishment) only make the behavior occur less often.

2. Punishment. As we suggested in the text, there is little room for punishment in a behavior modification program since more can be accomplished using positive reinforcement methods. Punishment operates to provide an unpleasant consequence for behavior and only suppresses its occurrence.

3. Reasoning or Judgment. The ultimate goal in behavior therapy is to teach an individual to control his own behavior. We want him to be able to reinforce himself so that he no longer needs candy or other concrete rewards but is reinforced by the satisfaction of completing a task successfully. By giving reasons and explanations for your orders, rewards, and punishments, you can frequently teach a person how to think for himself and to understand the connection between his behavior and its consequences. Of course, the client's level of functioning will determine whether or not this technique is appropriate for use.

4. Teaching alternative behaviors or incompatible behaviors. Instead of punishing a person, we saw how he might be taught a behavior which is incompatible (cannot be done at the same time) with the undesirable behavior. By teaching a client to play cooperatively with his friends he cannot at the same time fight with them.

5. Time-out from positive reinforcement. Since the removal of a reinforcer following a response is by definition punishment, time-out from positive reinforcement is a punishment procedure. However, it is a procedure that is free from many of the limitations associated with other forms of punishment. Time-out is advantageous because it removes the client quickly and quietly from the reinforcing event for a brief period of time, without generating undue stress and anxiety.

Before we stop, it might be well to "rehash" a few of the principles we have been dealing with as a review.

We learned that the basic principles for eliminating behavior are:

1. Reinforcing Incompatible Behavior. To eliminate a behavior reinforce an incompatible behavior.

2. Extinction. To eliminate a behavior, no longer reinforce it.

3. Punishment by Withdrawing Reinforcers. To eliminate a behavior punish it by immediately withdrawing reinforcers. Time-out is a common punishment procedure involving withdrawal of reinforcers. In using this procedure it is important to specify the fules beforehand, avoid any other warnings, and carry out the punishment immediately and consistently. If the punishment does not work, look for one that will work.

In our studies, we also found that behavior maintenance can be facilitated by use of intermittent schedules. Two principles were discussed as very important to the use of schedules:

1. Behavior will persist longer in the absence of reinforcement when the behavior has been reinforced on an intermittent schedule.

2. To establish an intermittent schedule, you gradually decrease the frequency of reinforcement.

If the worker follows the rule of gradually making the reinforceable response unit large, he will be using most of what we really know about the effect of reinforcement schedules on maintenance of behavior. We also discussed how we can shift reinforcement control from special reinforcement systems (such as tokens) by gradually eliminating components of the token system while continuing to use praise, special activities, and natural consequences to reinforce the desired behavior.

Student Quiz 100-4
Code 76-7

Texas Department of Mental Health Mental Retardation

Concepts and Schedules of Reinforcement In Behavior Modification

Part I - Multiple Choice Items

1. Paul has been pounding on the time-out room door for almost 30 minutes. What course of action can be taken to decrease both the pounding and the undesirable behavior for which he was secluded?

   a. Do not go anywhere near the seclusion room until he quiets down.
   b. Talk with Paul through the door, gently reminding him that he cannot get out until he has been quiet for at least 15 minutes.
   c. Yell through the door for Paul to either quiet down or do without supper.
   d. Go into the seclusion room and keep him company.

2. Responses which are followed closely in time by reinforcing consequences will:

   a. Disappear over time
   b. Occur more frequently
   c. Cause problems for the therapist
   d. None of the above

3. Neutral stimuli which have been repeatedly followed by reinforcers will:

   a. Exert little, if any, effect on learning
   b. Generally acquire punishing properties
   c. Usually acquire reinforcing properties
   d. None of the above

4. A hospital patient behaves appropriately in the presence of two staff members. However, he hallucinates, screams, and becomes aggressive with other staff members. How can we get the client to behave more appropriately with ALL of the staff?

   a. Ignore his hallucinations, screams, and aggressive behavior.
   b. Reinforce him for discussing his feelings about the other attendants.
   c. Reinforce him for discussing his fears, even though they are unfounded.
   d. Reinforce him for talking quietly about things other than his hallucinations.

5. In which situation should intermittent as opposed to continuous reinforcement be used?

   a. A patient has not spoken for 5 years. He is now being reinforced for talking.
   b. A patient who is being reinforced for initiating conversations is doing well and will be ready for discharge in a few weeks.
   c. An outpatient who has been reinforced for assuming responsibilities around the house, such as making the bed and preparing meals, is performing well now.
   d. A patient who is being reinforced for physical exercising has progressed from running 1/4 of a mile every other day to running a full mile every day (His goal being to run one mile per day).

6. How should one go about trying to extinguish a patient's "crazy" talk?

   a. Ignore it completely.
   b. Ignore it until it becomes very annoying.
   c. Ignore it every other day.
   d. Ignore it until you begin to feel sorry for the patient.

7. Paul is put in the Time-Out Room for 15 minutes after he breaks a window. How should he be handled while he is in time-out?

   a. Ignore him except for routine observation through the window until he has been quiet for 15 consecutive minutes.
   b. Sit down with him in the time-out room to keep him company.
   c. Attempt to find out why he broke the window while you have him in the time-out room.
   d. None of the above

Part II - True-False Items

8. In operant conditioning, the subject "operates" upon or modifies on his environment so as to produce a desired result. This leads to the conclusion that operant responses are determined by their consequences.

   ______ True ______ False

9. When the positive or negative value of a reinforcing stimulus is intrinsic - as with food, water, or electrical shock - the stimulus is referred to as a primary reinforcer.

   ______ True ______ False

10. If the reinforcing characteristics of a stimulus must be learned or acquired through continued association with primary reinforcers, the stimulus is referred to as a generalized reinforcer.

   ______ True ______ False

11. Generally, it can be said that any response which a subject is capable of making can be established and maintained by appropriate use of scheduling reinforcement.

_____ True _____ False

12. Learning appears to be especially persistent when reinforcement invariably follows appearance of the desired response.

_____ True _____ False

13. Complete withholding of reinforcement usually results in the eventual extinction of a learned response.

_____ True _____ False

14. Ordinarily, positive reinforcers are effective only if they are related to a felt need.

_____ True _____ False

15. Social reinforcement, such as praise, affection, or attention, are powerful reinforcers for the mentally retarded.

_____ True _____ False

16. In operant conditioning, the relationship developed between the behavior and the reinforcing event is said to be a "contingent" relationship.

_____ True _____ False

Part III - Matching Items

17. Following are four types of contingent relationships. Match the appropriate contingency relationships (shown in Column I) with the corresponding description (shown in Column II).

COLUMN I

1. Desired behavior resulting in the presentation of a positive reinforcer. _____
2. Desired behavior resulting in the presentation of a negative reinforcer or aversive stimulus. _____
3. Desired behavior resulting in the removal of a positive reinforcer. _____
4. Desired behavior resulting in the removal of a negative reinforcer or aversive stimulus. _____

COLUMN II

a. An individual is "punished" by withholding what we know to be positive reinforcers such as restricting a patient to the ward for a month because he came in late from a pass. In this case, you "punish" not by doing anything aversive to the patient but by withholding from him opportunities to engage in behavior which is rewarding to him, such as having the freedom to leave the ward.

b. A person performs a desired behavior and is rewarded in some fashion, such as with food, money, a smile, the opportunity to engage in pleasant activities or to do something else that he likes to do, so as to increase the rate of behavior.

c. To modify undesirable behavior, you may employ aversive stimuli such as threats, physical punishment, and ridicule. Young children are trained not to touch certain objects by spanking their hands if they do, with the anticipation being that the child will now refrain from touching the objects in order to escape the punishment.

d. A wife nags her husband in order to get him to take out the garbage. If he does so, she will cease her nagging, threats, and scoldings. The husband can avoid such negative consequences by engaging in the desired behavior of taking out the garbage.

PART IV - COMPLETION ITEMS

18. List the six rules for using reinforcers.

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________

19. Games, activities, and situations which involve objects that can be handled are referred to as __________ reinforcers.

20. Maintenance of a learned behavior is facilitated by __________ or partial reinforcement.

21. Removal of a behavior from a client's behavioral repertoire can be accomplished by complete __________ of the reinforcement.

22. To prevent __________, a client should be given small amounts of a given primary reinforcer during training.

23. Praise, affection, and attention are called ___________ reinforcers. They, as other reinforcers, seem to function better when the individual is in a ___________ state.

24. In general, the basic tedious parts of a skills learning situation can best be handled by use of ___________ or ___________ reinforcers. Integration of the various parts of a task can best be managed by using ___________ reinforcers.

25. The decelerator known as ___________ refers to either removing the client from a positively reinforcing situation or removing a positive reinforcement from the client.

26. If an undesirable behavior is not reinforced, it will eventually disappear. This phenomenon is called ___________. One disadvantage of extinction is that it usually requires longer than other ___________ to take effect.

27. At times, you may wish to substitute an appropriate behavior for one which is inappropriate. This involves use of the decelerator referred to as conditioning an ___________ behavior.

28. Reinforcement is central to the ___________, ___________, and ___________ of behavior.

29. Behavior persists longer after reinforcement has been terminated when the behavior was reinforced on an ___________ schedule.

30. In establishing an intermittent reinforcement schedule, you gradually ___________ the frequency of reinforcement.

Solution to Student Quiz 100-4
Code 76-7

Texas Department of Mental Health Mental Retardation

Concepts and Schedules of Reinforcement In Behavior Modification

Part I - Multiple Choice Items

1. a
2. b
3. c
4. a and b
5. b, c, and d
6. a
7. a

Part II - True-False Items

8. True
9. True
10. False
11. True
12. False
13. True
14. True
15. True
16. True

Part III - Matching Items

17. 1. b

2. c

3. a

4. d

Part IV - Completion Items

18. 1. Reinforce immediately.
2. Reinforce differentially.
3. Reinforce behavior in the place you want it to occur.
4. Reinforce behavior in the presence of people in whose company you want it to occur.
5. When behavior is first being learned, reinforce continuously.
6. When behavior is occurring regularly, reinforce intermittently.

19. Manipulatable

20. Intermittent

21. Withholding

22. Satiation

23. Social, Deprived

24. Primary, Manipulatable, Social

25. Time-Out

26. Extinction, Decelerators

27. Incompatible

28. Acquisition, Elimination, Maintenance

29. Intermittent

30. Decrease

Lesson Plan 100-5
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

SPECIFIC TECHNIQUES AND PROCEDURES IN BEHAVIOR MODIFICATION

LESSON PRESENTED TO : TDMHMR Personnel Participating in Behavior Modification Programs

PLACE : Classroom

REFERENCES :

- Kazdin, A.E. *Behavior Modification in Applied Settings*. Homewood, IL: Dorsey Press, 1975.
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- London, P. Behavior Control. New York: Harper & Row, 1969.
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- Schaefer, H. H., and Martin, P.L. *Behavioral Therapy* New York: McGraw-Hill, 1969.
- Skinner, B.F. *Science and Human Behavior*. New York: Free Press, 1953.
- Tharp, R.G., and Wetzel, R.J. *Behavior Modification in the Natural Environment*. New York: Academic Press, 1969.
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- Wenrich, W.W. *A Primer of Behavior Modification*. Monterey, CA: Brooks/Cole, 1970.
- Whaley, D.L., and Malott, R.W. *Elementary Principles of Behavior*. New York: Appleton-Century-Crofts, 1971.

STUDY ASSIGNMENT : Read Student Handout 100-5

INSTRUCTIONAL MATERIALS AND EQUIPMENT: Chalkboard, chalk, eraser, 35 mm projector and transparencies numbered 100-5-0 through

TYPE OF INSTRUCTION : Lecture and Group Discussion

I. INTRODUCTION

A. Opening Statement

Note: Display transparency 100-5-0

During this period, we will be discussing specific techniques and procedures used in behavior modification. Among other things, we will discuss shaping, chaining, prompting, and fading. We will also consider the techniques of restitution, over correction and time out, which you may--at some time or another--need to employ. This is because not all techniques and procedures will "work" with all clients. You need to be proficient in using a variety of techniques and flexible enough to use them where indicated.

B. Instructional Objectives

Upon completion of this instructional unit dealing with specific techniques and procedures, the student will be able to:

1. Identify consequences of behavior, given an account of the events surrounding the behavior.
2. Identify consequences which were reinforcers, given a description of a behavior and its consequences.
3. Select the point at which reinforcers should be delivered, give a description of ongoing behavior and a target behavior to increase.
4. Select from a list those techniques which might be used to (1) overcome or (2) establish discrimination, given a description of the situation in which an individual has (1) established or (2) failed to establish a discrimination.
5. Arrange a list of behaviors in order for shaping, when given a description of the person's present behavior as well as the desired goal.
6. Demonstrate the procedures for prompting and fading prompts in teaching a client self-help skills.
7. Identify from descriptions of interactions those procedures that are extinction, time out, charging, restitution, over correction, and/or combinations of these procedures.
8. Distinguish punishment from extinction, time out and charging by correctly identifying statements that describe the application of each procedure.

II. PRESENTATION

A. Specific Procedures for Strengthening and Maintaining Behavior

Note: Display transparency 100-5-1

In the preceding class sessions, we have discussed the various principles which form the basis for behavior modification therapy. In this class, we will discuss in more detail several specific strategies for strengthening, weakening and teaching desirable behaviors.

Three specific interventions can be used to strengthen behavior. They are:

a. The Positive Reinforcement Principle
b. The Premack Principle
c. The Negative Reinforcement Principle

B. The Positive Reinforcement Principle as a Specific Intervention Technique

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1. Overview of the Principle

As we found out earlier, positive reinforcement refers to the fact that a client's behavior will be strengthened if the client's behavior is followed immediately by a positive consequence. While this principle of behavior modification is basically simple, there is a knack to applying it to particular situations so that it will work. Intervention programs will sometimes fail, despite your best efforts. When they do you need to know what to look for in order to find out what is going wrong. We will be looking at some of the potential trouble "spots" during this class session.

Note: Display transparency 100-5-2

2. The Need to Make Sure that the Reinforcer is Reinforcing

At times, a worker may decide that a particular item should be highly reinforcing to a client. He then proceeds to set up an intervention program in which the client can earn that particular item. However, much to his surprise, no behavior change occurs. The item was not reinforcing to the client. We need to always keep in mind that an object, experience, activity, or comment functions as a reinforcer only if, when it follows a behavior, it increases the probability that the behavior will occur again.

Example: A staff member concluded that money was reinforcing to a client. He discovered much later that it was not the money itself that was reinforcing, but the experience of going out to spend the money in a store.

Example: A staff member concluded that watching cartoons was very important to a young client and thus would serve as a good activity reinforcer. The staff member was able to get the behavior change desired. However, after the client earned the right to watch the cartoons, he didn't. What then was the reinforcing event? Perhaps it could have been simply having the privilege of turning down something which was offered contingently.

3. The Need to Reinforce the Behavior with the Appropriate Amount

a. Too Much Reinforcement

If an intervention program is to be effective, you must use the right amount of reinforcement. This is because too much reinforcement can cause the client receiving the reinforcement to become satiated. SATIATION, as we saw earlier, describes the situation experienced by the client who has received too much reinforcement, is filled up, and wants no more. The reinforcer loses its power to motivate the client.

Note: Display transparency 100-5-3

Example: A client who loves ice cream sodas will soon have had enough if he gets one every half hour. Or, a client who loves physical activity will probably tire of it if that is all he is allowed to do.

b. Too Little Reinforcement

Too little reinforcement could cause the person receiving it to feel deprived. The term DEPRIVATION describes the situation experienced by a client who is not getting enough of the reinforcer. When a client judges that the reinforcer he will receive for performing a particular behavior is insufficient, he will probably stop engaging in the behavior.

Note: Display transparency 100-5-4

Example: A staff member specified five dormitory chores to be performed by a client by the end of the day. One of the tasks was making the bed. The staff member reinforced the client's performance of each chore with a token. Only four out of the five tasks were ever finished; the bed remained undone. Finally, when the staff member "upped" the amount of reinforcement given for making the bed from one to three tokens, the client made the bed. Prior to "upping the ante" the reinforcement offered for performing the expected behavior was too little.

4. Timing of Reinforcement

When you reinforce is also important. We mentioned in an earlier session that the sooner you give the reinforcer after the behavior occurs the better for your intervention program.

Example: A client is being toilet trained. Everytime he urinates while sitting on the "potty", he receives several miniature marshmallows. They are given to him as soon after the occurrence of the behavior as possible.

5. Scheduling Considerations

As we discussed earlier, SCHEDULE OF REINFORCEMENT refers to the manner in which reinforcement is delivered. It may be given after a certain amount of time elapses or after a certain number of responses occur. The two basic schedules of reinforcement we discussed are:

Note: Display transparency 100-5-5

a. CONTINUOUS REINFORCEMENT simply means that the behavior you are concerned with is reinforced every time it occurs. When you first begin to teach or strengthen a behavior, it is best to reinforce it every time it happens, on a continuous schedule.

b. INTERMITTENT REINFORCEMENT simply means that the behavior is reinforced only occasionally. After the desired behavior has been established, you should stop reinforcing it continuously and begin to reinforce it intermittently. Otherwise, two things could happen: 1) the behavior may become associated with the reinforcer, with the client coming to expect the reinforcer and 2) the client may become satiated with too much reinforcement, under a continuous schedule. Intermittent or occasional reinforcement operates to strengthen behavior and make it last longer than does continuous reinforcement.

6. The Need to Move from External to Intrinsic Reinforcers

Note: Display transparency 100-5-6

As we discussed in an earlier class session, to strengthen a behavior, you can use many different reinforcers. For example, an intervention program may begin with heavy reliance on token, tangible or activity reinforcers. Many times these reinforcers are used at the beginning of the intervention program because they usually exert a strong impact and can function to generate quick changes in the target behavior. At the same time, however, it is important that you reinforce the desired behaviors using accompanying social reinforcement such as smiles, hugs, and abundant praise. This is because, in many cases, once the behavior is occurring on a regular basis, the need for token and tangible reinforcers may become less. The behavior can then be maintained by social reinforcement alone. Hopefully, the performance of the behavior will itself become intrinsically reinforcing, minimizing the need for token or social reinforcement.

7. The Process of Phasing Reinforcers

As we indicated in our earlier discussions, it is very important to be systematic in using reinforcements. Consider the following situation which demonstrates the phasing of reinforcers.

Reinforcement Phase I--Tangible and token reinforcers are given to a client for studying self-help skills. Studying behavior provides the client with tokens which are used for purchases of desired items.

Reinforcement Phase II--Social reinforcement is given for the study of self-help skills. The staff member offers generous amounts of praise. This reinforcement is offered simultaneously with the token and tangible reinforcers but is continued beyond the time when the token and tangible reinforcers are discontinued from the intervention program.

Reinforcement Phase III--Studying self-help skills becomes intrinsically reinforcing. The process of learning new skills and solving new problems is reinforcing in and of itself. As this begins to happen, even social reinforcement becomes less and less

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necessary. Note, however, that this is the ultimate stage in behavior modification programs and is not always easy to reach.

8. Token Economy Overview

Note: Display transparency 100-5-7

Once you learn the basic principles of reinforcement theory and behavior modification, you can use positive reinforcement to set up more complicated systems which focus on numerous behaviors. Many MHMR facilities are using such systems under the name "token economy systems". In these systems, tokens are given to clients when they perform certain desirable behaviors, each behavior being worth a certain number of tokens. The tokens earned can then be exchanged for goods, rights, or privileges. Some facilities substitute "points" for tokens. In such a point system you would identify the behaviors which you want to occur, assign a certain point value to each behavior, and determine a list of goods, activities, and/or privileges which the client could purchase with the points. The cost for goods, in terms of activities and privileges points,would have to be determined. A sample form which could be used for a point system is shown on the screen.

9. What to do if your Positive Reinforcement Program does not Seem to be Working

If your positive reinforcement intervention program doesn't seem to be working, it would be well for you to consider the following questions to determine whether or not any of the factors listed are contributing to your intervention program's failure:

a. Have you failed to adequately identify and define the target behavior?
b. Have you been consistent in your implementation of the intervention program?
c. Are you asking for too much change at one time?
d. Are you using the wrong kind of reinforcer?
e. Are you providing too much reinforcement?
f. Are you giving too little reinforcement?
g. Are you not reinforcing soon enough?
h. Are you reinforcing too often?
i. Are you not providing reinforcement often enough?
j. Have you made the intervention program too complicated for the client to understand?

C. The Premack Principle as a Specific Intervention Technique

Note: Display transparency 100-5-8

1. The Premack Principle, you may remember, states that a high frequency behavior can be used as a reinforcer for a low frequency behavior. This can be a very useful intervention strategy because it does not require you to provide any token, tangible, or other type of external reinforcer. The reinforcers already exist in the client's "natural" behavioral repertoire. To use it, all you

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have to do is to identify the client's high and low frequency behaviors. The general assumption is that the high frequency behaviors represent things the client "likes" to do and thus possess reinforcing value.

2. Consider the following possible high and low frequency behaviors for a hypothetical client:

High Frequency Behaviors	Low Frequency Behaviors
1. Playing baseball	1. Studying and finishing homework
2. Watching television	2. Cleaning his room
3. Playing with his friend across the street	3. Mowing the lawn
4. Having milk and cookies at bedtime	4. Doing the chores

3. After you have succeeded in identifying a clients high and low frequency behaviors, you can utilize this simple formula: "If you (the client) perform this (low frequency behavior), then you can do this (high frequency behavior)."

Example: A resident would drink very little milk (low frequency behavior) but loved to eat his dinner (high frequency behavior). The staff simply required that he drink one swallow of milk before he could eat his next bite of food. Thus, eating dinner was reinforced by his drinking his milk. After he learned to drink one swallow of milk for one bite of dinner, he was then taught to take two or three swallows of milk for each bite of food. Gradually, he learned to drink milk on his own. A high frequency behavior was used to reinforce a low frequency behavior.

D. Negative Reinforcement as a Specific Intervention Technique

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1. As we discussed in an earlier class session, negative reinforcement can also strengthen behavior. The behavior concerned is strengthened because it terminates an aversive or unpleasant event. Since the negative reinforcement principle applies only when negative reinforcers are present, it is not the most effective intervention strategy. In general, your time and energy should not be unduly devoted to identifying negative reinforcers but rather to learning to recognize positive reinforcers and to increasing the total amount of positive reinforcement your client receives. It is much better to "turn on" positive reinforcers than to "turn off" negative ones.

2. To better understand the concept of negative reinforcement, consider the following example.

Example: The staff were concerned that a client always "hung" his finger from his lower lip whenever he would watch television. They conceived an intervention program in which he was reinforced for simply counting the number of times he put his finger in his mouth. As he counted this behavior, he became aware of it and was able to stop of his own accord. As the frequency of sticking his finger in his mouth decreased, the staff praised him (positive social reinforcement) thus strengthening his behavior of not putting his finger in his mouth. At the same time, by not putting his finger in his mouth, he reduced the number of times he had to be corrected or "nagged" about it. Not putting his finger in his mouth was negatively reinforced because it had the result of terminating the staff's constant correction or "nagging" which had been aversive.

E. The Intervention Goal--Self Reinforcement

1. As we have discussed repeatedly, we all learn behaviors by the consequences which follow our behavior. Initially, you as an MHMR worker must determine what consequences will follow what behaviors in order to teach your client appropriate behaviors. As the client improves and his understanding increases, he can be taught to analyze his own behavior using these same principles. In this way he can learn to manage his own behavior in such a way that he can produce consequences which will strengthen or weaken any given behavior. This is called self-reinforcement or self-control, and involves independence or autonomy, which should be the ultimate goal of any intervention program.

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2. The process of self-reinforcement,which should be our aim, involves the following:

   - Set realistic goals for the client's behavior change.

   - Seek to achieve these goals in terms of reasonable increments of change in behavior.

   - Arrange for progress towards, and achievement of, these goals so as to produce positive consequences.

F. Specific Procedures for Weakening and Eliminating Behavior

In the section of the lesson just concluded, we discussed specific procedures for strengthening and maintaining behavior. At this time, we will focus in detail on intervention principles which you can use to weaken and eliminate undesirable behavior.

Five specific interventions which can be used to weaken a behavior are:

- The Punishment (Type 1) Principle
- The Punishment (Type II) Principle
- The Extinction Principle
- The Reinforcement of Incompatible Behavior Principle
- The Satiation Principle

1. The Punishment (Type I) Principle

As you will see momentarily, we will be discussing two types of punishment which can be used to weaken and eliminate undesirable behavior.

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a. Punishment (Type I) is used to describe the situation in which a behavior has the consequence of "turning on" an aversive or unpleasant event.

Example: While on the playground, Joe called John a "four letter" name. John immediately came over and socked Joe in the nose. Joe's behavior (calling John a name) had the consequence of turning on a negative reinforcer (getting hit in the nose).

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Parents frequently use this type of punishment in their attempts to change or control their children's behavior.
Punishment (Type I) occurs anytime

behaviors such as		consequences such as
fighting		spanking
disobedience		scolding
backtalk	lead to	nagging
crying		ridicule
temper tantrums		negative comments

b. Punishment (Type I) usually functions to suppress behavior--not weaken it.

Yelling at a group of squabbling clients at the top of your lungs will very likely have the effect of stopping their squabbling, but only for a short time. It will quiet them momentarily because such a loud noise from you is aversive, distracting and a cue that more terrible consequences are about to follow if something doesn't change. Because yelling has produced quiet (a positive consequence for you), yelling has been positively reinforced and strengthened as a behavior you are apt to expect. It is in this way that clients can train staff to yell, scold, and nag.

c. Many times other consequences are at work in the environment which tend to strengthen and maintain the behavior in spite of its momentary suppression by a staff member's yelling.

Example: The fact that staff members pay more attention (even though negatively) to the clients when they are creating a disturbance actually strengthens the noisy, disruptive behavior. Likewise, a client's poking, hitting, and teasing of another client may be reinforced by the loud and vocal protest generated on the part of the other client.

D. Remember that Punishment (Type I) generally has the effect of merely suppressing behavior and not weakening it because other consequences are simultaneously reinforcing the behavior and,the suppression may be only momentary.

E. Many times, when a behavior leads to a negative or aversive consequence, it makes the person engaging in that behavior want to escape the painful situation.

Example: A client approached a staff member to tell her how angry he became when a dormitory mate knocked his books from under his arm. The staff member reprimanded and scolded him for having negative feelings and being angry. Consequently, the client "clammed up" and tried to escape from the staff member's painful words. He wanted to escape a painful situation which could have--with proper handling on the staff member's part--been used for positive purposes.

F. If the behavior which leads to painful consequences occurs a number of times, the client engaging in that behavior will soon quit it in order to avoid those painful consequences.

Example: If the client discussed above is reprimanded and scolded a number of times for expressing angry negative feelings, he will soon stop telling the staff about his feelings and begin to hide them in order to avoid reprimands.

In many respects, the learned avoidance behavior is often worse than the originally punished response. A client not talking to the staff about how he feels is worse than his expression of negative feelings because it limits the communication between client and staff.

2. Punishment (Type I) Generates Physiological or Emotional Responses Such as Anxiety

It should not be difficult for you to see that punishing consequences are threatening to a client's feelings of well being and self-image. In the presence of such threatening consequences, a client's physiological responses such as blood pressure, respiration and muscle tension are apt to be mobilized as part of that person's effort to defend his self-image. Such physiologically-based emotional responses are the basis of anxiety and can become conditioned not only to a specific punishment but also to other stimuli associated with it. There can be a disruptive "spill-over" effect into other areas of behavior. Anxiety generated by the use of Punishment (Type I) can be very debilitating.

Example: In the course of growing up, a child receives many painful beatings from his father (primary authority figure). As a result, he may learn to be anxious in the presence of other authority figures such as teachers, principals, policemen, and other officials.

a. Punishment (type I) can generate (1) bad feelings about oneself and (2) resistance and counter aggression.

The person who experiences abundant unpleasant consequences as a result of his behavior may learn to always think of himself as being bad and needing to be punished.

Also, punishing consequences many times cause the attacked client to defend himself by counterattacking. You can also see that Punishment (Type I) provides a model for aggressive behavior. Clients learn a great deal by imitation. When staff members use aggressive and punitive methods to change behavior, clients learn by imitation that being aggressive and punitive is seemingly acceptable behavior.

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b. Punishment (type I) may sometimes be necessary on special occasions.

It is not the intent of the foregoing to suggest that punishment should never be considered. At times punishment may have to be used to rapidly train a client to avoid danger.

Example: If a client runs into the street, he or she may need to be grabbed and given a shake or something in order to teach him or her not to run into the street in front of a car.

c. On the rare occasions where you must use punishment (type I) follow these rules:

- Punish the client immediately after the occurrence of the behavior and make it a specific consequence of that behavior.

- Explain to the client why you are punishing him for that behavior.

·Each time you punish the client for a given behavior use the same words to verbalize the prohibition. Your words will then become a cue for avoiding the behavior.

G. The Punishment (Type II) Principle

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Punishment (type II) is the term used to describe the process in which behavior is weakened when it is followed by the removal of a positive reinforcer. Basically two forms of punishment (type II) are identified:

(1) .Time out
(2) ·Response cost

1. Time out

Time out refers to the contingent removal of reinforcement for a specified period of time.

Example: A young mentally retarded client woke up in the morning and wanted out of her crib so that she could run around. When the staff member attempted to change her diaper before letting her go, the client cried and squirmed to get loose. Using time out, the staff member picked her up, put her back in the crib, and left the area for thirty to sixty seconds until she quit crying. The staff member then returned and tried again. This time the client lay quietly while her diapers were changed. Her crying and squirming had been weakened because it led to the staff member removing himself from the area for a brief period of time. The reinforcement value of the staff member in the situation described stemmed in part from the fact that the staff member had the power to free the client from her crib and let her run around as she wished to do.

2. In using time out you can:

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a. Remove the client from the reinforcing environment and place him in a neutral area for a specified period of time (normally five minutes) or

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b. Remove the positive reinforcer from the client's possession for a brief period.

Both qualify as time out procedures.

3. Response cost

Response cost is the term used to describe the contingent withdrawal of a specified amount of reinforcers.

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Example: A client earns an extra half hour of TV time when he gets from school to the dormitory on time. For every minute he is late returning to the dormitory from school, he is penalized one minute of TV time.

Keep these in mind when using response cost:

1. Make sure the client has a reserve of reinforcers built up. Don't allow the client to be penalized more than he is reinforced.
2. Use the response cost intervention principle sparingly. It is much better to reinforce a child for behavioral change in a positive direction than it is to penalize him for inappropriate behavior.

4. The Extinction Principle

You will remember from our earlier discussions that extinction describes the process in which behavior is weakened when is is not followed by reinforcement.

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Example: A client on a dormitory wakes up crying every night. The staff's response to her crying was to take her out of bed and let her stay at the nurse's station for a while. By doing so the staff reinforced the crying behavior. After they were advised to ignore the crying and to require that the client stay in her bed, the crying continued for three nights and then stopped altogether.

The example is cited primarily to point out that if you continuously ignore an undesirable behavior for a long enough period of time, it will become extinguished. This is because the behavior is not provided with any reinforcement (attention). The client will soon learn that the behavior isn't paying off and the behavior will slowly cease.

5. Keep these factors in mind when you use extinction:

1. Many times, extinction works best on undesirable behaviors which are not harmful to the child or others.
2. Don't use extinction unless you can"turn off" all sources of reinforcement for the behavior. If one staff member attempts to ignore an undesirable behavior and the other staff members attend to it, the behavior will probably not weaken.
3. When you attempt to extinguish a behavior by ignoring it, be careful that you don't reinforce it intermittently--which could have just the opposite effect you desire, by really strengthening it.

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Example: If a client cries in order to gain attention and the staff tries to ignore it, the client will usually cry louder and longer. If the loud, noisy crying becomes sufficiently aversive to them, the staff may finally attend to the client in order to stop the crying. In this case, the staff have actually functioned to reinforce the crying at a higher level of intensity. Also attending to the client when crying occurs has been negatively reinforced because it terminated the unpleasant crying.

H. Reinforcement of Incompatible Behavior as a Specific Intervention Technique

The reinforcement of incompatible behavior principle describes the process in which you weaken an initial behavior by identifying and reinforcing a behavior which is incompatible with it.

Example: Approaching and interacting with other clients is incompatible with shyness and withdrawn behavior. If you reinforce the client's approach behavior, you will weaken the shy, withdrawn behavior. Or, if a client is crying, you can eliminate the crying by doing something that will make him laugh. He cannot laugh and cry at the same time. The two behaviors are mutually exclusive.

The important point to keep in mind when utilizing the intervention just described is to be sure that the two behaviors are in fact incompatible.

I. Satiation as a Specific Intervention Technique

Satiation is the term used to describe the situation in which a client is required to engage in a particular behavior until he tires of it.

Example: A client had a very unpleasant habit of spitting anywhere in the dormitory. Whenever the staff found him doing this, they made him stand outside and spit and spit. The client was required to spit until he was extremely tired of spitting. He became satiated with spitting.

J. Overcorrection As a Specific Intervention Technique

1. Restitution is an overcorrection procedure. It educates a disruptive client to assume responsibility for the disruption by requiring he or she to correct the consequences of the misbehavior. That is, the client is required to restore the situation to a state vastly improved from that which existed prior to the disruption.

Example: A client who overturned a table would be required to both:

1. restore the table to its correct position
2. dust and wax the table

2. In using restitution as a specific intervention technique be sure that the restitution is directly related to the misbehavior. This will help:

    1. to prevent the staff member from being arbitrary and/or punitive.
    2. help motivate the staff member to use the restitution procedure since, otherwise, the staff member would himself be forced to correct the disruption.
    3. the client experience directly the effort which is normally required by others to undo the disruption created by his or her misbehavior.

3. Require the restitution immediately after the misbehavior has occurred.

    a. Immediate restitution will help provide for extinction of the offense, since the client will have little or no time to enjoy (be reinforced by) the disruptive behavior.
    b. Insisting on immediate restitution will tend to provide for greater inhibition of future misbehaviors. This is because immediate negative consequences tend to be more effective than non-immediate consequences when punishing a behavior.

4. Restitution should be extended in duration. This is to insure that while engaging in restitution, the client will not be able to engage in other activities that are reinforcing. Thus, the restitution period constitutes time-out from reinforcement.

5. General procedures

    a. During the restitution procedures, it is essential that positive reinforcement be minimal. Otherwise, residents might create disturbances just in order to go through the restitution procedure to get whatever positive reinforcement might be attached to it.

        1. Since attention can be reinforcing, the staff member should minimize all social interactions with the client.

    b. There are alternatives to attention and praise that you can use for assuring the performance of the restitution response. They include:

        1. Use verbal instructions, given in a non-emotional manner--that is, not pleasantly and not angrily. Even angry or hostile remarks can be reinforcing to humans who are deprived of adequate social contact.

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        2. Graduated guidance can be used in the restitution process. This consists of physical guidance whereby the staff member manually guides the desired movements using the least restricting amount of guidance necessary. This guidance is faded immediately as the client begins to perform the movement voluntarily. If the desired movement slows down or stops, the staff member immediately resumes the graduated guidance. The "theory" is that the annoyance of having one's limbs guided functions as an aversive stimulus situation which the client can terminate by initiating voluntary movements.

        3. Used together, the two procedures of verbal instruction and graduated guidance sets up a conditioned avoidance situation which can lead to instructions alone being effective. This is because the instructions would become a cue or signal that if the resident failed to perform the "avoidance response" of voluntarily initiating the required behavior, the graduated guidance procedure would then be instituted by the staff member.

6. Examples of Restitution Procedures Which Might Be Used for Specific Disturbances

    a. Household orderliness training as restitution for the disturbance of objects

        1. If a client disrupts the general appearance of the area by throwing a chair, he or she should be required to restore the chair to its correct position, and straighten up all other chairs.

        2. Social reassurance (apology) training as restitution for annoying or frightening others: since the disruptive client has probably caused fear among the other clients, he or she should be required to reassure fearful residents that the disruption will not be repeated by apologizing to ALL persons present (a nonverbal resident can be required to gesture).

        3. Oral hygiene training as restitution for self infection

            a. By biting other people or mouthing objects, a client can expose himself or herself to potentially harmful microorganisms. Thus, he or she could be required to form an oral hygiene procedure of rinsing the mouth with oral antiseptic.

K. Positive Practice

Positive practice requires that the disruptive client practice intensively overly correct forms of relevant behavior. Examples follow:

1. A disruptive client who overturned a table, after restitution of that particular table, would be required to straighten and dust all tables and furniture in the room.
2. If someone who had completed a prescribed toilet training procedure urinated on the floor, following the restitution procedure, he or she could be required to go through a positive practice procedure of walking to the toilet six times.
3. Positive practice teaches the disruptive client the correct manner in which to treat environmental objects (or in some instances, his or her own body).
4. Positive practice also provides an acceptable reinforcement alternative: It provides the client with an opportunity to learn a behavior which would be positively reinforced if the behavior had occured spontaneously, and not as a result of overcorrection.

L. Required Relaxation

Required relaxation may be prescribed as an overcorrective practice in certain cases such as when a disruption is a result of an agitated state. Here, the overcorrection procedure is directed towards that particular agitated state rather than to the disruptive behavioral act itself.

a. Overcorrection procedure for agitation involves overcorrective practice in being calm and relaxed. It functions like this:

    1. Following an agitated disruption, the client is required to spend an extended period in relaxation (in his or her own bed). This required relaxation is incompatible with further disruption.

    2. Extended periods of required relaxation serve to:

        a. correct a client's state of agitation.
        b. give other clients a period of quiet and peace in recompense for the disruption.

b. Required relaxation procedures should provide for:

    1. the client's immediate physical removal from the disruptive situation.

    2. use of a location which is quiet, so as to enhance the process of learning to relax.

3. removal not so far from the normal environment as to cause concern about sensory deprivation (as encountered with seclusion and isolation). Required relaxation is not intended as a means of circumventing seclusion guidelines.

M. Stimulus Control

1. From our earlier discussions, you know that a stimulus is any physical event or object in the environment that is related to a person's behavior. A stimulus could be an object such as a door, window, clothing, hair, or page in a book. Or, a stimulus could be an event such as brushing one's teeth, watching TV at night or smoking a cigarette as soon as you sit down at the breakfast table. We know that a person's behavior is typically learned in a fairly limited environmental setting which usually contains fairly consistent stimuli. In practice, these consistently present stimuli come to eventually function as control stimuli--bringing about the behavior which is learned in their presence. As you might expect, many behavioral problems you will be called upon to deal with involve stimulus control considerations. Certain stimuli function to bring about a certain behavior which, in some cases, may be inappropriate. As you will see, if you wish to gain control over a client's undesirable behavior, you must develop stimulus control. For example, if you want a certain target behavior to occur in the presence of a particular stimulus, such as a command, we must structure the situation so that the stimulus gains control of the behavior. Psychologists call this process of learning certain cues for certain behaviors discrimination. We will talk more about this later.

2. Three types of stimulus control problems can be differentiated.

   a. In the first type, behaviors are under control of certain stimuli although the client wishes to change or eliminate the governing stimulus control. For example, cigarette smoking behavior may be under control of various stimuli such as getting up in the morning, eating breakfast, talking, studying, and being alone, if it has consistently occurred in these situations. Any one of these stimuli can lead the smoker to reach for the familiar cigarette package to "light up".

   b. The second type of stimulus control problem centers on behaviors which are not under stimulus or situational control although the client wishes that such control did exist. Consider this example. For many of the students who have difficulty studying,the behavior of studying is usually not under control of particular stimuli or cues such as time or place. That is, the art of studying is not performed consistently in the presence of any particular situation. The difficulty the student encounters in studying may result from stimuli which normally serve as cues for studying (such as the library or desk) also being cues for other behaviors which interfere with studying, such as exchanging gossip or small talk with fellow students.

c. The third type of stimulus control problem concerns behavior which is under control of stimuli regarded as socially inappropriate. To illustrate, sexual deviance such as transvestism, exhibitionism, and fetishism represent examples of sexual arousal in the presence of socially censured stimuli. Although the behaviors of sexual arousal and gratification may be regarded as appropriate, the controlling stimulus conditions are regarded as socially deviant.

d. From what we have learned thus far about behavior modification, it should be obvious that some individuals who are made aware of how stimuli exert control over their behavior can be trained to alter the environment so as to increase or decrease the likelihood that certain behaviors occur. To illustrate, an obese person who knows that passing a candy store results in stopping by to purchase candy, can control his behavior by always crossing the street before he arrives at the candy store, passing by the store when it is closed, or passing by after having eaten a large meal. He knows the stimuli which control his behavior and with this knowledge can avoid or alter situational conditions so as to change his own behavior.

e. It is also important to note that an individual can develop stimulus control. For example, a student who has difficulty studying at his desk can develop stimulus control designed to increase studying behavior. One way to do this is to remain at his desk only while concentrating on academic tasks. This is because, to develop stimulus control, the student should not engage in any other activity other than studying. If he wants to chat on the phone or daydream, he must leave the desk. Initially, studying behavior may only occur for a short period before some other response such as daydreaming interferes, preventing the individual from concentrating. However, gradually the amount of study time at the desk will increase as the desk comes to exert stimulus control over studying behavior.

f. Stimulus control procedures have been used to help individuals to develop a variety of behaviors such as study skills, and to eliminate or decrease behaviors such as insomnia, overeating, and cigarette smoking. In each case, the individual comes to perform certain behaviors only in the presence of specific cues. The systematic association of a given set of cues (stimuli) with a specific behavior generally results in the cues gaining control over the behavior.

3. As suggested above, many of the inappropriate behaviors you will encounter will involve specific stimulus control problems instead of inappropriate rates of behavioral response or performing the behavior in and of itself.

    a. Many behaviors will come to your attention as problems needing change, not because the behavior is universally undesirable, but because it occurs under inappropriate circumstances.

Example: For an exhibitionist, it is where he undresses (i.e., in the presence of what stimuli), rather than the rate with which he undresses, or the fact that he undresses which constitutes the problem of immediate concern.

    b. The behavior of the mentally ill, for example, is not controlled by the same stimuli that function for "normal" individuals. Thus, intervention is aimed at bringing the client's behavior under the control of stimuli which are appropriate to the given situation.

4. To establish a control stimulus, you arrange the situation so that a behavior occurs in the presence of a particular stimulus. Then you reinforce the behavior. Specifically, you:

    a. identify the problem behavior.
    b. identify the environmental stimuli which elicit or reinforce the problem behavior.
    c. identify the alternatives available to eliminate, restrict, or control the identified environmental stimuli. You then select one of these alternatives and base your intervention strategy on it.

5. Creating Stimulus Control

    Discrimination training is a procedure used to create stimulus control. In it, one response is reinforced in the presence of one stimulus, and another response is extinguished in the presence of another stimulus. To understand the procedure, you will need to learn the following new terms:

    a. The stimulus with which reinforcement for a response is associated is called the discriminative stimulus or S^D. You would predict that the response you are dealing with would continue to be made in the presence of this discriminative stimulus or S^D.

    b. The symbol S^{Δ} (pronounced ess-delta) is used to specify a stimulus which, when presented, will lead to the response not being reinforced. Thus, the response becomes extinguished.

c. This discrimination training procedure is a type of differential reinforcement. In it, a response is reinforced in the presence of a certain cue or stimulus and is not reinforced in the presence of another cue.

d. In the procedure, you would say that a discrimination has been formed if differential responding occurs to different stimuli, i.e., different stimulus situations set the stage for different behaviors.

e. How do you go about implementing discrimination?

   1. You first determine the need for cue control of a specific behavior.
   2. Next, you establish the S^D/S^Δ conditions we discussed above.
   3. Then you reinforce the response in the S^D conditions you arrange.
   4. You avoid reinforcing the response in the S^Δ conditions you arrange.
   5. You maintain consistent pairing of the reinforcement/non reinforcement with the appropriate stimuli.
   6. You collect data concerning cue-specific responses, including trials.
   7. You review the program and adjust the stimulus conditions if differential responding has not been established after a reasonable trial period.

6. Implications of Stimulus Control

a. Skills that are easily learned by "normal" people, such as using the bathroom in the correct place at the right time, must be taught to some clients. In this process, after the client has learned the skill through operant conditioning techniques, he must then learn to associate the skill with the correct stimulus control. In other words, once a client has learned to go to the bathroom, he must learn that he should only go when he has his pants down and is standing over the toilet. The toilet and his pants being down function as the stimulus controls for the clients using the bathroom.

b. Several factors make it difficult for some clients to learn correct stimulus controls. These relate to his difficulty in understanding verbal cues and the fact that a stable environment must be maintained if the stimulus controls are to be effective. Also, before any training can start, the trainer must teach the client certain verbal cues or basic commands such as "Look at me" (so as to get the client's attention), "Come here", "Sit down", "Stand up", etc. These commands are necessary for training the client in almost any skill and are especially important in teaching stimulus control.

Additionally, while the client is being trained, the staff must be consistent in the use of these commands. Otherwise the client will become confused, and his training would be hindered to a considerable extent.

c. The stable environment or consistency mentioned above must also apply to the environment in which the client lives. Any abrupt changes which are made in his physical surroundings interfere with his environmental stability, causing him to "lose" his stimulus controls. For example, just as the toilet functions as the stimulus control for his going to the bathroom, the color of the dorm walls or the style of the furniture may function as stimulus controls for some other behavior, such as dressing or eating. If changes must be made in the client's living environment, they should be made gradually. As we shall soon see, this gradual method of changing cues is called fading.

d. The experienced worker uses total communication in training the clients. This refers to using gestures and body movements along with the primary and social reinforcers. The worker uses total communication to gain the client's attention. Then, after he has obtained the client's attention and has trained him in the basics of the new desired behavior, the worker can begin to fade out the gestures and body movements and even slowly fade out the primary reinforcement he has been using.

7. Generalization

In working with clients, you will find that they sometimes have difficulty in generalizing. Generalizing refers to being able to learn one skill and then applying that skill to other similar situations. For example, a client might learn to go to the bathroom on his dormitory; but then, because of the absence of known stimulus controls, he might not be able to go to the bathroom in another building. He would not be able to generalize from one bathroom to another. In this case, he must he introduced to a new set of stimulus controls in each building and must associate going to the bathroom with each building--such as in the schoolroom or in the doctor's office--as well as in his dormitory. Cooperation of all staff members is required to introduce the client to new stimulus controls, in the various settings where he must function.

8. Overview--Techniques for Gaining Stimulus Control

a. Clients will learn faster (that is, come under stimulus control) if they are trained:

1. By the same person every day
2. In the same room every day
3. At the same time every day

b. The same worker should teach the client each day if possible. This is because everyone teaches in a different way. Therefore, the client may become confused if different workers teach him the same skill on different days. Later, after the client has mastered the target behavior, other individuals can ask him to perform the target behavior, without causing any difficulty. If it is not possible for the same worker to teach the client every day, then another worker should observe the individual's teaching technique and train the resident in the same way, to the extent possible.

c. The client should be taught in the same room or area every day. It is always best to use the same area in the room and the same furniture during each training session. This cuts down on the possibility of the client becoming distracted and also allows the client to feel more comfortable.

d. The client should be taught the target behavior at the same time every day. Every person has a certain schedule he follows. There are times to eat, sleep, toilet, wash, and play. Like anyone else, the client gets used to a routine and feels comfortable following it. The best time to teach a skill is the time of day when the client normally uses it. For example, teach dressing in the morning, undressing before bed time, and eating skills at mealtime.

N. Fading

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1. We will be using the term fading to discuss two important processes. In one we will be concerned with "leaning or stretching out" the schedule of reinforcement. In the other, we will be concerned with the process of gradually and progressively removing the cues or prompts which in the past have caused the behavior to be emitted or which have marked the occasion on which the behavior--if emitted--would be reinforced.

2. "Stretching or leaning out" the schedule of reinforcement refers to the process of gradually requiring more performance of the behavior before reinforcement will be given. This is an important step in the process of reducing a client's reliance on tangible and token reinforcers. You will remember that one of the goals of modification is to move from reliance on tangible and token reinforcers to reliance on activity, social and intrinsic reinforcers. If a client's attempts to engage in appropriate behavior and to learn new skills are positively reinforced, that positive reinforcement will many times strengthen the behavior and generate positive feelings on the part of the client. The sense of competence and mastery which stems from the client learning new behaviors and skills may gradually become intrinsically reinforcing, eventually

displacing the need for reinforcement from external sources. The end result of this process is a client who feels good about himself because he has learned the behaviors and skills necessary for managing his own life.

3. Guidelines for stretching the schedule of reinforcement

   You should keep these things in mind when you stretch the schedule of reinforcement:

   a. Avoid reducing the total amount of reinforcement received by the client because the removal of positive reinforcement constitutes punishment. If you reduced the amount of reinforcement you would be in the position of punishing desirable behavior. You could, however, reduce the amount of tangible and token reinforcers in those cases where the client expresses disinterest in them and where the behavior appears to be maintained by activity, social or intrinsic reinforcers.

   b. Stretch the schedule by requiring a larger number of responses or a longer interval of time before providing reinforcement. However, when the reinforcement is delivered, initially it should equal the total amount the client would have earned with that particular number of responses or that particular length of time on the old schedule.

   c. Remember, a sudden halt to a particular behavior modification program or demands for large improvements in required client behavior can bring back former problems.

   d. Do not begin the stretching out process until the client's behavior begins to approximate the level at which you feel comfortable.

4. Fading out the cues refers to the process of gradually and progressively removing the cues or prompts which have (1) caused the particular behavior to be emitted or (2) which have marked the occasion on which the particular behavior, if emitted, would be. reinforced.

5. Guidelines for Fading out Cues

   Keep the following three rules in mind when you start to fade out cues:

   a. Identify the cues which reliably occasion the particular behavior.
   b. Always remove the cues gradually and progressively.
   c. Cue the particular behavior only enough to get it started.

6. Procedure for Fading Out Amount and Kind of Reinforcement

   a. Once you have begun stretching out the schedule of reinforcement, you have to start thinking about decreasing the amount of reinforcement and moving from tangible to more naturally occurring social reinforcers. If you are operating on a fixed interval or fixed ration schedule, you should replace it with a variable interval or variable ratio schedule respectively. Initially, it is a good idea to keep the average ratio or interval the same as in the fixed schedule.

   b. You can combine a variable interval and variable amount schedule so as to create a program more resistant to extinction. Such a schedule makes "thinning" of reinforcement easy. The worker gradually increases the average interval and decreases the average amount of reinforcement. If tangible reinforcers are involved, you should always make an effort to increase social reinforcement while the tangible reinforcement is being faded out. Remember, however, you should have been pairing social praise with tangible or activity reinforcers all along. If you are attempting to fade out high frequency social reinforcement, do so systematically by utilizing a variable amount-variable interval schedule.

   c. When you start to fade amount and kind of reinforcement, keep the following guidelines in mind:

      1. Develop a plan to gradually and progressively move away from tangible and token reinforcers to social reinforcement and intrinsic control.

      2. Move gradually from fixed to variable schedules combining a variable interval, variable amount schedule before actually thinning out the amount of reinforcement.

      3. If a client approaches you to inform you that he doesn't need those "old gold" stars anymore, don't be surprised. Many times clients will feel they have "out-grown" such "special" interventions. Be ready to agree with them. However, don't forget to continue to give sincere positive praise for appropriate behavior.

7. Weekly Graphing after the Fading Process is Complete

You may find it helpful to prepare a weekly graph of a target behavior after fading has been completed. The reason for transferring from a day by day data to a weekly chart is that the amount of behavioral change is often more vividly portrayed in this way.

To prepare a weekly graph of a target behavior, you simply plot (1) the total time or number of times a behavior occurred each week or (2) the average daily time or number of occurrences for the week.

8. Recapitulation of the Fading Process

   a. Fading is the act of gradually changing the cues in the client's environment.
   b. Once the prompts, gestures, and instructions have served the purpose of helping communicate with the client, they must be gradually withdrawn. This is the point at which the worker uses fading. In general, physical prompts should be faded before gestures. Gestures should be faded before verbal instructions. Verbal instructions should be faded to the point where a single simple command elicits all the desired behavior.
   c. Every client is different and will learn at a different rate. For this reason, the worker must his judgment to determine when to begin fading. A general rule to follow is: Do not begin fading until the client has completely mastered the target behavior with the use of instructions, gestures, and prompts.
   d. If the client becomes confused and is unable to successfully complete the target behavior, the worker may be fading too fast. If cues are being removed too quickly, reintroduce them to reestablish stimulus control of the target behavior, then proceed more slowly.

9. Following is an example of how the fading process might function in teaching toileting skills.

   a. In teaching toileting skills, you would ordinarily determine the highest level of instruction the client will respond to, starting with

      1. verbal instruction only as a prompt
         example: "John, toilet."
         (if no response after three such instructions, go to the following;)
      2. verbal instructions plus gesture as prompts
         example: "John, toilet (point to toilet)."
         (if no response after three such instructions, go to the following;)
      3. verbal instruction, gesture, light touch on trainee's shoulder as prompts
         example: "John, toilet (point, lightly touch trainee on top of shoulder)."
         (if no response after three such instructions, go to the following;)
      4. verbal instruction, gesture, full physical prompts
         example: "John, toilet (point, lift under shoulder and direct trainee to toilet)."

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In order to fade out the prompts, you would reverse the above order. That is, you would fade out the physical and gestural prompts first--with the verbal prompts being the last to be faded.

O. Shaping Procedures

In shaping, we help the client acquire new behaviors instead of just strengthening behaviors that he already has in his behavioral repertoire. We do this by reinforcing the client for making closer and closer approximations to the desired behavior.

Note: Display transparency 100-5-22

1. With shaping, the desired behavior is broken down into small pieces or steps, with each successive step requiring only a little more than the previous step.

2. The client is started off with a step he can easily handle and is reinforced for successfully performing that behavior.

3. As you proceed, you withold reinforcement for the first step--requiring the client to perform the next step before you provide reinforcement. By reinforcing successive approximations, you gradually teach the desired behavior.

4. Prompting is sometimes helpful in shaping. In prompting, we show a person how to do or say something. It can be used to help teach a client to take the next step in a shaping program. As mentioned earlier during the period, prompts are faded out--or gradually eliminated--as they become unnecessary.

5. Recapitulation of the basic steps in shaping:

   Step 1. Identify a reinforcer, and increase its effectiveness by depriving the client of it.
   Step 2. Identify the final behavior you desire to obtain.
   Step 3. Identify a current client behavior which can be shaped toward the final behavior (even one that is remotely related).
   Step 4. Plan likely steps to follow the first behavior that you will reinforce.
   Step 5. Reinforce the client for performing the first approximation in the sequence.
   Step 6. Once the client is performing that approximation regularly, stop reinforcing him for it. Then before his approximation behavior weakens, reinforce him for the next step. When necessary, prompt him by showing or telling him what to do.
   Step 7. Repeat step 6 for the next behavior in the sequence. Continue this way until the final, desired behavior is reached. Any time that a behavior seems too difficult for the client to perform, drop back a little to prevent him from stopping to perform completely.

P. Chaining of Behavioral Components

Chaining procedures are used to teach those behaviors which usually occur in a fixed order. In chaining, each target behavior is first taught singly by using the successive approximation approach we discussed earlier. Then they are conditioned together.

The distinguishing characteristic of chained behaviors is that the target behavior is taught backwards. That is, the last step of the task is taught first. Thus, the client is initially taught to finish the task, not begin it. The popular notion to "begin at the beginning" does not apply to chained activities. When an activity is to be taught by chaining, you must "begin at the end."

1. Chaining Procedure

a. Prepare a list of components involved in the behavior you desire to teach. Make sure that the last behavioral component occurs first in the list, and the first component appears last. You will teach chaining with this list.

Note: Display transparency 100-5-23

b. Chaining can be illustrated by using the task of dressing.

1. For the present purposes, we will assume that dressing consists of five distinct behavioral components:

   i. Putting on underwear
   ii. Putting on pants or slacks
   iii. Putting on a shirt or blouse
   iv. Putting on socks
   v. Putting on shoes

2. Each of these five components of dressing behavior are first conditioned singly using the successive approximation procedure we discussed earlier. Then they are conditioned together, one at a time, using the following chaining procedure.

   i. The worker begins by having the client put on his underwear, pants, shirt, and socks. Then he would say to the child, "Get dressed", and have him put on his shoes. The worker would reinforce the child using a bridging signal such as "good boy" accompanied by a tangible reinforcer and perhaps a pat on the back or a hug.
   ii. Then the worker would have the client put on his underwear, pants, and shirt. He would say, "Get Dressed" having him put on his socks. Verbal reinforcement plus a tangible reinforcer such as Koolade or candy and perhaps a social reinforcement such as a pat on the back or hug.

        iii. Next, the worker would have the client put on his underwear and pants. He would say, "Get Dressed", have him put on his shirt for verbal reinforcement his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
        iv. Then, the worker would have the client put on his underwear. He would say, "Get Dressed," have him put on his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
        v. Finally, the worker would tell the nude child, "Get Dressed", have him put on his underpants for verbal reinforcement, his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.

3. This chaining or "tying together" process has to be conducted very slowly over many training sessions in order to successfully chain the behaviors in question.

4. Once all the behavioral components have been successfully chained, fading procedures such as these we discussed can be begun. The worker begins to drop out the verbal reinforcement after underwear, then pants, then shirt, then socks, and so on until the only reinforcement left is the one administered at the end of the desired behavior sequence. This must be done slowly. Otherwise, the chained behavior you worked so hard to establish may not persist.

Q. Modeling

Note: Display transparency 100-5-24 through 100-5-28

1. In behavior modification therapy, considerable use is made of modeling. In this procedure, the model demonstrates the behavior to the person who is to learn it. The client then practices the new behavior, being guided through it step-by-step by the model.

2. Five guidelines have been identified as being essential for effective modeling. They are:

    a. Model the desired behavior many times, using different models.
    b. Shape the behavior gradually.
    c. Guide or coach the client through each step.
    d. While guiding the person through a difficult step, use physical contact such as resting your hand on the person's arm.
    e. Provide reinforcement at each step during the modeling process.

Note: At this time, administer Student Quiz 100-5. Use quiz results to clarify points that the students misunderstood and for reteaching purposes.

III. SUMMARY

During this period, we discussed a number of specific procedures and techniques which have been shown to be useful in behavior modification. In our discussions, we noted that we could use three specific interventions to strengthen behavior. These were the positive reinforcement principle, the Premack principle, and the negative reinforcement principle. We also explored the use of five specific interventions as a means of weakening a behavior. These were: the punishment (type I) principle, the punishment (type II) principle, the extinction principle, the reinforcement of incompatible behavior principle, and the satiation principle. We also took a look at overcorrection and restitution procedures and noted that the restitution prescribed should be directly related to the client's misbehavior. Stimulus control was presented as an important consideration in behavior and several suggestions were made for helping bring a client's behavior under stimulus control We discussed fading--both in terms of gradually removing cues or prompts and in leaning or stretching out a reinforcement schedule. We closed our discussion with a somewhat detailed discussion of shaping and chaining procedures. We noted that in chaining, you teach the target behavior backwards. That is, you teach the last step of a given behavioral task first.

Programmed Student Handout 100-5
Code 76-8

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

SPECIFIC TECHNIQUES AND PROCEDURES IN BEHAVIOR MODIFICATION

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".

2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.

3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.

4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

This handout will be devoted to a discussion of specific techniques and procedures used in behavior modification. Among other things, we will be discussing shaping, chaining, prompting, and fading. We will also consider the techniques of restitution, over correction, and time out, which you may--at some time or another--need to employ. This is because not all techniques and procedures will "work" with all clients. You need to be proficient in using a variety of techniques and flexible enough to use them where indicated.

In preceding handouts, we have discussed the various principles which form the basis for behavior modification therapy. Now, we will discuss in more detail several specific strategies which you can use for strengthening, weakening and teaching desirable behaviors.

Three specific interventions can be used to strengthen behavior. They are:

a. The Positive Reinforcement Principle
b. The Premack Principle
c. The Negative Reinforcement Principle

The three specific interventions we can use to strengthen behavior are:

1. ________________________________

2. ________________________________

3. ________________________________

The Positive Reinforcement Principle
The Premack Principle
The Negative Reinforcement Principle

Overview of the Positive Reinforcement Principle

Positive reinforcement refers to the fact that a client's behavior will be strengthened if the client's behavior is followed immediately by a positive consequence. While this principle of behavior modification is basically simple, there is a knack to applying it to particular situations so that it will work.

The Positive Reinforcement Principle tells us that a client's behavior will be __________ if it is followed by a positive ______________.

strengthened
consequence

FIRST PLACE
USA

Figure 1. You need to make sure that the reinforcer you are using is really reinforcing.

The Need to Make Sure that the Reinforcer is Reinforcing

At times, you may decide that a particular item should be highly reinforcing to a client. You then proceed to set up an intervention program in which the client can earn that particular item. However, much to your surprise, no behavior change occurs. The item was not reinforcing to the client. You need to always keep in mind that an object, experience, activity, or comment functions as a reinforcer only if, when it follows a behavior, it increases the probability that the behavior will occur again.

An object, experience, activity or comment functions as a reinforcer ONLY if--when it follows a behavior--it ______________________________

____.

increases the probability that the behavior will occur again.

The Need to Reinforce the Behavior with the Appropriate Amount

If an intervention program is to be effective, you must use the right amount of reinforcement. This is because too much reinforcement can cause the client receiving the reinforcement to become satiated. Satiation, as we saw earlier, describes the situation experienced by the client who has received too much reinforcement, is filled up, and wants no more. The reinforcer loses its power to motivate the client. When a person is satiated, he has had too ________ of a reinforcement.

much

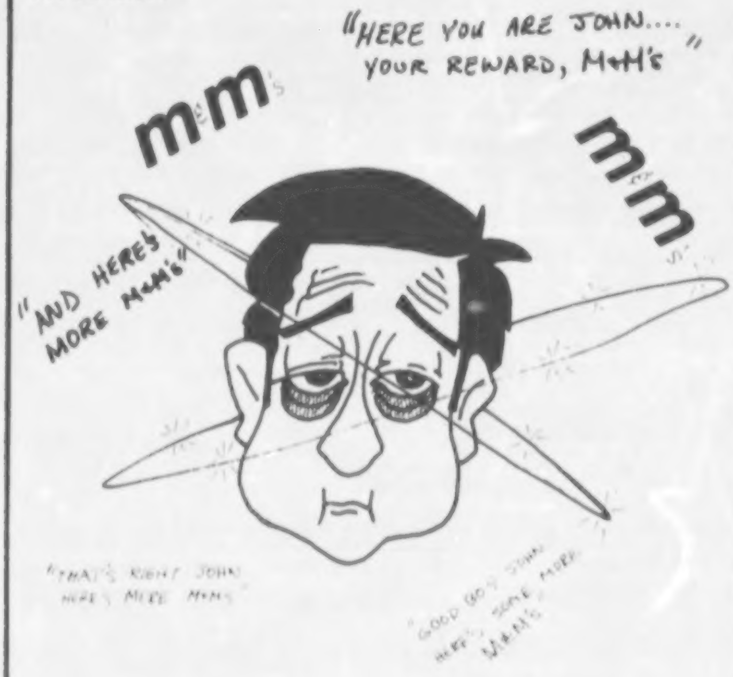

"HERE YOU ARE JOHN.... YOUR REWARD, M+M's"
m&m's
m&m's
"AND HERE'S MORE M+M's"
"THAT'S RIGHT JOHN HERE'S MORE M+M'S"
"GOOD BOY JOHN HERE'S SOME MORE M+M'S"

Figure 2. Too much reinforcement causes the client to become satiated.

Too little reinforcement could cause the person receiving it to feel deprived. The term deprivation describes the situation experienced by a client who is not getting enough of the reinforcer. When a client judges that the reinforcer he will receive for performing a particular behavior is insufficient, he will probably stop engaging in

the behavior.	
Too little reinforcement could cause a client to ______ engaging in a desired behavior.	stop
When you reinforce is also important. We mentioned in a previous handout that the sooner you give the reinforcer after the behavior occurs the better for your intervention program.	
In reinforcing, you should give the reinforcement as ______ after the behavior occurs as possible.	soon
Scheduling Considerations	
The term schedule of reinforcement refers to the manner in which reinforcement is delivered. It may be given after a certain amount of time elapses or after a certain number of responses occur. There are two basic schedules of reinforcement: continuous and intermittent.	
The two basic kinds of reinforcement schedules are ____________ and ____________.	continuous intermittent
A SCHEDULE OF REINFORCEMENT COULD INVOLVE DELIVERY OF A REINFORCER AFTER: 1. A GIVEN AMOUNT OF TIME ELAPSES. 2. A CERTAIN NUMBER OF RESPONSES OCCURS.	
Figure 3. Elements which could be involved in a schedule of reinforcements.	

A continuous reinforcement schedule simply means that the behavior you are concerned with is reinforced every time it occurs. When you first begin to teach a behavior, it is best to reinforce it every time it happens, on a continuous schedule.	
In a continuous reinforcement schedule, you reinforce the behavior ______ time it occurs. This is particularly important when you first begin to ______ a behavior.	every teach
In an intermittent reinforcement schedule, the behavior is reinforced only occasionally. After the desired behavior has been established using a continuous schedule, you stop reinforcing it continuously and begin to reinforce it intermittently. Otherwise, two things could happen: 1) the behavior could become associated with the reinforcer and 2) the client could become satiated with too much reinforcement, under a continuous schedule. Remember, intermittent (or occasional) reinforcement operates to strengthen behavior and make it last longer than does continuous reinforcement.	
Which reinforcement schedule operates to strengthen a behavior and make it last longer? ______	intermittent
The Process of Phasing Reinforcers	
It is very important that you be systematic in using reinforcements. Consider the following situation which demonstrates the phasing of reinforcers.	
Reinforcement Phase I--Tangible and token reinforcers are given to a client for studying, for example, self-help skills. Studying behavior provides the client with tokens which are then used for purchase of desired items.	
Reinforcement Phase II--Social reinforcement is given for the study of the self-help skills. The staff member offers generous amounts of praise. This reinforcement is offered simultaneously with the token and tangible reinforcers but is continued beyond the time when the token and tangible reinforcers are discontinued from the intervention program.	

Reinforcement Phase III--Studying the self-help skills becomes intrinsically reinforcing. The process of learning new skills and solving new problems is reinforcing in and of itself. As this begins to happen, even social reinforcement becomes less and less necessary. Note, however, that this is the ultimate stage in behavior modification programs and is not always easy to reach.	
The aim in phasing reinforcers is to move from ______________ reinforcers, to ______________ reinforcement, and eventually to intrinsic reinforcement--where, for example, learning new skills becomes reinforcing in and of itself.	**tangible, social**
What to do if your Positive Reinforcement Program does not Seem to be Working?	
If your positive reinforcement intervention program doesn't seem to be working, it would be well for you to consider the following questions to determine whether or not any of the factors listed are contributing to your intervention program's failure:	
a. Have you failed to adequately identify and define the target behavior? b. Have you been consistent in your implementation of the intervention program? c. Are you asking for too much change at one time? d. Are you using the wrong kind of reinforcer? e. Are you providing too much reinforcement? f. Are you giving too little reinforcement? g. Are you not reinforcing soon enough? h. Are you reinforcing too often? i. Are you not providing reinforcement often enough? j. Have you made the intervention program too complicated for the client to understand?	

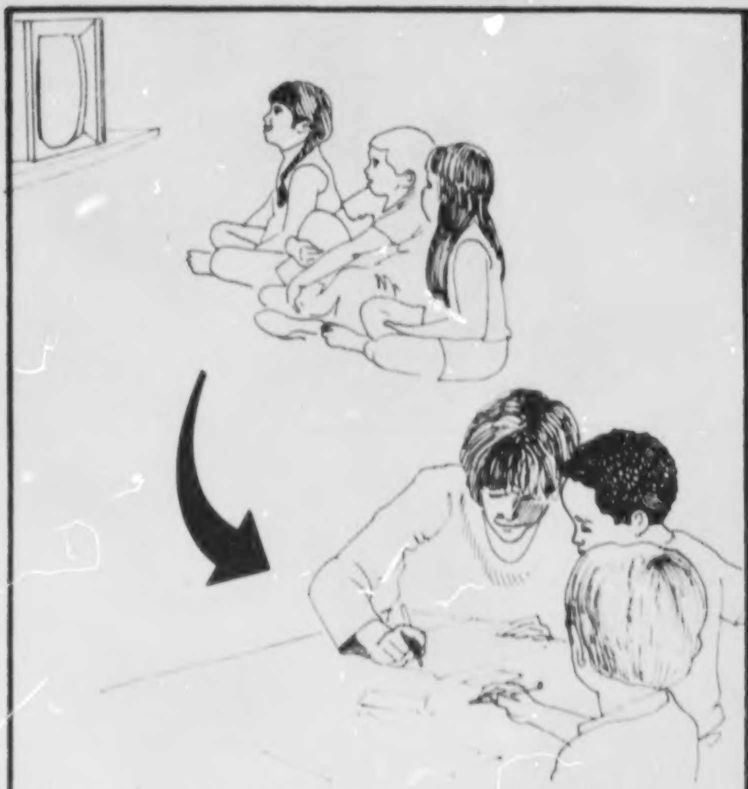


Figure 4. The Premack Principle uses high frequency behaviors to reinforce low frequency behaviors.

The Premack Principle as a Specific Intervention Technique

The Premack Principle centers on the fact that high frequency behavior can be used as a reinforcer for a low frequency behavior. This can be a very useful intervention strategy because it does not require that you provide any token, tangible, or other type of external reinforcer. The reinforcers already exist in the client's "natural" behavioral repertoire. To use the principle, all you have to do is to identify the client's high and low frequency behaviors. The idea is that the high frequency behaviors represent things the client "likes" to do and thus possess reinforcing value.

The Premack Principle states that a _________ frequency behavior can be used to reinforce a ________ frequency behavior.	high low

After you have succeeded in identifying a clients high and low frequency behaviors, you can utilize this simple formula: "If you (the client) perform this (low frequency behavior), then you can do this (high frequency behavior)."

REMEMBER, IT IS BETTER "TURN ON" POSITIVE REINFORCERS THAN TO "TURN OFF" NEGATIVE ONES.

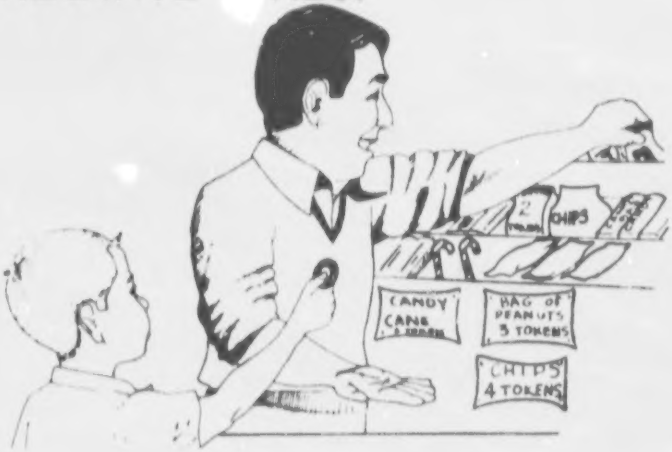


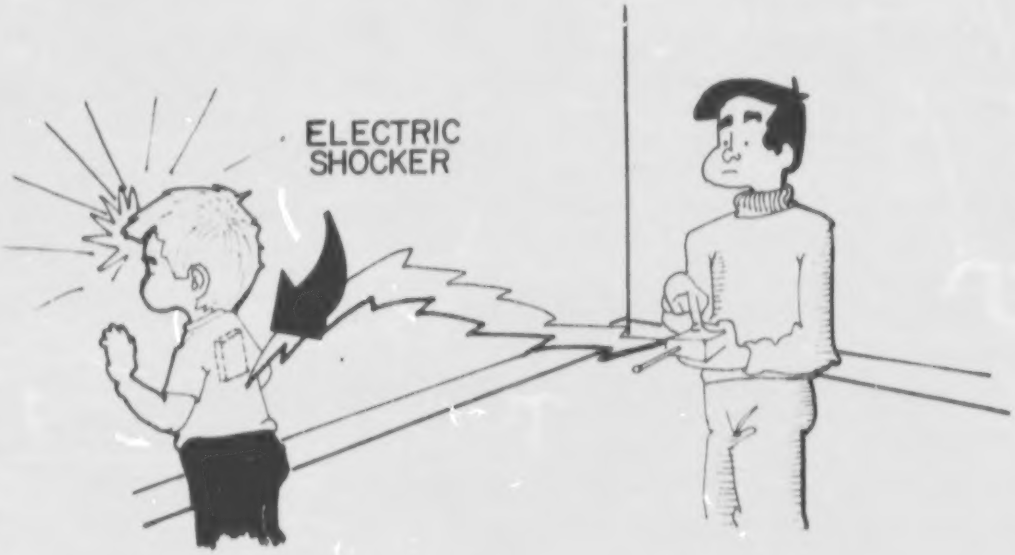
Figure 5. When possible use positive reinforcers instead of negative ones.

Negative Reinforcement as a Specific Intervention Technique

Negative Reinforcement can also be used to strengthen behavior. The behavior concerned is strengthened because it terminates an aversive or unpleasant event. Since the negative reinforcement principle applies only when negative reinforcers are present, it is not the most effective intervention strategy. In general, your time and energy should not be unduly devoted to identifying negative reinforcers but rather to learning to recognize positive reinforcers and to increasing the total amount of positive reinforcement your client receives. It is much better to "turn on" positive reinforcers than to "turn off" negative ones.

In developing an intervention program, it is much more productive to use positive reinforcement than

it is to use negative reinforcement. _____True _____False	True
Your Intervention Goal--Self Reinforcement Initially, you must determine what consequences will follow what client behaviors in order to teach your client appropriate behaviors. However as the client improves and his understanding increases, he can--in many cases--be taught to analyze his own behavior using the same principles that you use. In this way he can learn to manage his own behavior so that HE can produce consequences which will strengthen or weaken any given behavior. This is called self-reinforcement or self-control, and involves independence or autonomy. Attaining this should be the ultimate goal of any intervention program.	
The ultimate goal in any intervention program should be one of getting the client to the point where he ____.	can manage his own behavior.
Specific Procedures for Weakening and Eliminating Behavior Up to this point we have been discussing specific procedures for strengthening and maintaining behavior. Now we will consider intervention principles which you can use to weaken and eliminate undesirable behavior. Five specific interventions which can be used to weaken a behavior. They are: a. The Punishment (Type 1) Principle b. The Punishment (Type II) Principle c. The Extinction Principle d. The Reinforcement of Incompatible Behavior Principle e. The Satiation Principle	
What are the five specific interventions which can be used to weaken a behavior? 1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________ 5. ____________________	1. Punishment (Type I) 2. Punishment (TypeII) 3. Extinction 4. Reinforcing Incompatible Behavior 5. Satiation



INTERVENTION FOR "HEAD BANGING"

Figure 6. Type I Punishment involves "turning on" an unpleasant event.

Punishment (Type I) refers to a situation in which a client's behavior has the consequence of "turning on" an aversive or unpleasant event. Keep in mind, however, that this usually functions to suppress behavior--not weaken it.

Type I Punishment, which is defined as "turning on" an ______________ event, tends to ________ behavior, not weaken it.

unpleasant, suppress

Keep in mind that (Type I) can generate bad feelings about oneself and lead to resistance and counter aggression.

The person who experiences abundant unpleasant consequences as a result of his behavior may learn to always think of himself as being bad and needing to be punished. Also, punishing consequences many times cause the client to defend himself by counterattacking. Also, you can see that Punishment (Type I) provides a model for aggressive behavior. When staff members use aggressive and punitive methods to

change behavior, clients learn by imitation that being aggressive and punitive is seemingly acceptable behavior.	
An important disadvantage of the use of Punishment (Type I) is that it provides a _____ for aggressive behavior.	model
On the rare occasions when you must use punishment (Type I) follow these rules: a. Punish the client immediately after the occurrence of the behavior and make it a specific consequence of that behavior. b. Explain to the client why you are punishing him for that behavior. c. Each time you punish the client for a given behavior use the same words to verbalize the prohibition. Your words will then become a cue for avoiding the behavior.	
When you must use Type I Punishment, you should:	
1. Punish ___________ after the undesirable behavior.	immediately
2. Make the punishment a specific ______ of the behavior.	consequence
3. Explain to the client _____ you are punishing him.	why
4. Each time you punish for a given behavior, use the same ______ to verbalize the prohibition.	words

PUNISHMENT (TYPE II) INVOLVES THE REMOVAL OF A POSITIVE REINFORCER TO WEAKEN A SPECIFIC BEHAVIOR.

Figure 7. Type II Punishment involves removal of a positive reinforcer.

The Punishment (Type II) Principle

Punishment (Type II) is the term used to describe the process in which behavior is weakened when it is followed by the removal of a positive reinforcer. Basically two forms of punishment (Type II) are identified:

a. Time out
b. Response cost

List the two forms of Type II Punishment.

1. ________________
2. ________________

1.time out
2.response cost

In Type II Punishment, behavior is weakened by ________________ of a positive reinforcer.

removal

Time Out

Time out refers to the contingent removal of reinforcement for a specified period of time. In using time out you can:

a. Remove the client from the reinforcing environment and place him in a neutral area for a specified period of time (normally five minutes) or
b. Remove the positive reinforcer from the client's possession for a brief period.

Both qualify as time out procedures.

In time out, you (1) remove the client from a reinforcing environment or (2) remove a positive reinforcer from the client.

____True ____False

True

Response Cost

Response cost is the term used to describe the contingent withdrawal of a specified amount of reinforcers. You need to keep these factors in mind when using response cost to weaken a behavior:

a. Make sure the client has a reserve of reinforcers built up. Don't allow the client to be penalized more than he is reinforced.
b. Use the response cost intervention principle sparingly. It is much better to reinforce a client for behavioral change in a positive direction than it is to penalize him for inappropriate behavior.

When you use response cost as a method, you contingently ____________ a specified amount of ________________.

withdraw
reinforcers

The Extinction Principle

You will remember from earlier handouts that extinction refers to the process in which behavior is weakened when it is not followed by reinforcement.

Keep these factors in mind when you use extinction to weaken a client's behavior.

1. Many times, extinction works best on undesirable behaviors which are not harmful to the client or others.
2. Don't use extinction unless you can "turn off" all sources of reinforcement for the behavior. If one staff member attempts to ignore an undesirable behavior and the other

staff members attend to it, the behavior will probably not weaken. 3. When you attempt to extinguish a behavior by ignoring it, be careful that you don't reinforce it intermittently--which could have just the opposite effect you desire, by really strengthening it. If you are not careful during an extinction intervention program, you could wind up strengthening a target behavior instead of weakening it, by allowing intermittent reinforcement to operate. ____True ____False	True
Reinforcement of Incompatible Behavior as a Specific Intervention Technique The reinforcement of incompatible behavior principle describes the process in which you weaken an initial behavior by identifying and reinforcing a behavior which is incompatible with it. The important point to keep in mind when utilizing this intervention is to be sure that the two behaviors are in fact incompatible. Situation: Approaching and interacting with other clients is incompatible with shyness and withdrawn behavior. You reinforce a client's approach behavior so as to weaken the shy, withdrawn behavior. This is an example of which intervention technique?________________________	Reinforcing an incompatible behavior
Satiation is the term used to describe the situation in which a client is required to engage in a particular behavior until he tires of it. Situation: A client has a very unpleasant habit of spitting anywhere in the dormitory. Whenever you find him doing this, you make him stand outside and spit and spit. This is an example of which intervention technique?____________________	satiation

Restitution is an overcorrection procedure which may be effective in dealing with some clients. It educates a disruptive client to assume responsibility for the disruption by requiring he or she to correct the consequences of the misbehavior. That is, the client is required to restore the situation to a state vastly improved from that which existed prior to the disruption.

Example: A client who overturned a table would be required to both:

1. restore the table to its correct position
2. perhaps dust and wax the table

In restitution, the client is educated to assume ______________ for the disruption.

responsibility

In using restitution as an intervention technique be sure that the restitution is directly related to the client's misbehavior. This will help:

a. to prevent the staff member from being arbitrary and/or punitive
b. the client experience directly the effort which is normally required by others to undo the disruption created by his or her misbehavior.

It is important that any restitution be directly ______________ to the client's misbehavior.

related

You should require the restitution immediately after a client's misbehavior has occurred. This is because:

a. Immediate restitution will help provide for extinction of the offense, since the client will have little or no time to enjoy (be reinforced by) the disruptive behavior.
b. Insisting on immediate restitution will tend to provide for greater inhibition of future misbehaviors. This is because immediate negative consequences tend to be more effective than non-immediate consequences when punishing a behavior.

Restitution should be ____________.

immediate

Positive Practice as an Intervention Method

Positive practice requires that the disruptive client practice intensively overly correct forms of relevant behavior. Some examples of positive practice follow:

1. A disruptive client who overturned a table, after restitution of that particular table is required to straighten and dust all tables and furniture in the room.
2. A client who has completed a prescribed toilet training procedure urinates on the floor. Following the restitution procedure (mopping up), the client is required to go through a positive practice procedure of walking to the toilet six times.

Positive practice teaches the disruptive client the correct manner in which to treat environmental objects (or in some instances, his or her own body). It also provides an acceptable reinforcement alternative, in that it gives the client an opportunity to learn a behavior which would be positively reinforced if the behavior had occurred spontaneously, and not as a result of overcorrection.

Positive practice involves having the disruptive client practice overly ________ forms of ___________ behavior.

correct
relevant

Required Relaxation as an Intervention Strategy

Required relaxation may be prescribed as an overcorrective practice in certain cases such as when a disruption is a result of an agitated state. Here, the overcorrection procedure is directed towards that particular agitated state rather than to the disruptive behavioral act itself. The technique involves overcorrective practice in being calm and relaxed. It functions like this:

Following an agitated disruption, the client is required to spend an extended period in relaxation (in his or her own bed). This required relaxation is incompatible with further disruption. Such extended periods of required relaxation serve to:

a. correct a client's state of agitation
b. give other clients a period of quiet and peace in recompense for the disruption.

List the advantages of using required relaxation as an intervention strategy 1. ____________________ 2. ____________________	1. It corrects a client's agitated state. 2. It gives clients a period of quiet as recompense for the disruption.
Required relaxation intervention procedures should provide for: a. the client's immediate physical removal from the disruptive situation. b. use of a location which is quiet, so as to enhance the process of learning to relax. c. removal not so far from the normal environment as to cause concern about sensory deprivation (as encountered with seclusion and isolation). Required relaxation is not intended as a means of circumventing seclusion guidelines.	
If you use required relaxation as an intervention strategy, you should ________ remove the client from the disruptive situation.	immediately
Stimulus control We know that a person's behavior is typically learned in a fairly limited environmental setting which usually contains fairly consistent stimuli. In practice, these consistently present stimuli come to eventually function as control stimuli--bringing about the behavior which is learned in their presence. Environmental stimuli may come to "control" behavior. ____True ____False	True
Many behavioral problems you will be called upon to deal with involve stimulus control considerations. Certain stimuli function to bring about a certain behavior which, in some cases, may be inappropriate. If you wish to gain control over a client's undesirable behavior you must develop stimulus control. For example, if you want a certain target behavior to occur in the presence of a particular stimulus, such	

as a command, you must structure the situation so that the stimulus gains control of the behavior. Psychologists call this process of learning certain cues for certain behaviors discrimination.	
If you want a certain target behavior to occur in the presence of a particular stimulus, you must structure the situation so that the _____ gains control of the behavior.	stimulus
Stimulus control procedures have been used to help individuals to develop a variety of behaviors such as study skills, and to eliminate or decrease behaviors such as insomnia, overeating, and cigarette smoking. In each case, the individual comes to perform certain behaviors only in the presence of specific cues. The systematic association of a given set of cues (stimuli) with a specific behavior generally results in the cues (stimuli) gaining control over the behavior.	
The systematic association of a given stimulus with a specific behavior generally results in the _____________ gaining control over the behavior.	stimulus
To establish a control stimulus, you arrange the situation so that a behavior occurs in the presence of a particular stimulus. Then you reinforce the behavior. Specifically, you: a. identify the problem behavior. b. identify the environmental stimuli which elicit or reinforce the problem behavior c. identify the alternatives available to eliminate, restrict, or control the identified environmental stimuli. You then select one of these alternatives and base your intervention strategy on it.	
When you are establishing a central stimulus, you arrange the situation so that the _________ occurs in the presence of a particular stimulus. Then you _________ the behavior.	behavior reinforce
Remember that clients will learn faster (that is they will come under stimulus control) if they are trained: 1. By the same person every day 2. In the same room every day 3. At the same time every day	

Generalization

In working with clients, you will find that they sometimes have difficulty in generalizing. Generalizing refers to being able to learn something and then applying it to other similar situations. For example, a client might learn to go to the bathroom on his dormitory; but then, because of the absence of known stimulus controls, he might not be able to go to the bathroom in another building. He would not be able to generalize from one bathroom to another. In this case, he must be introduced to a new set of stimulus controls in each building and must associate going to the bathroom with each building--such as in the schoolroom or in the doctor's office--as well as in his dormitory. Obviously, the cooperation of all staff members is required to introduce each client to new stimulus controls, in the various settings where he must function.

When a client is able to apply something he learned in one situation to another similar situation, he is said to be ______________.

generalizing

Fading

In this handout, we will be using the term fading to discuss two important processes. In one usage we are concerned with "leaning or stretching out the schedule of reinforcement. In the other, we are concerned with the process of gradually and progressively removing the cues or prompts which in the past (1) have caused the behavior to be emitted or which (2) have marked the occasion on which the behavior--if emitted--would be reinforced.

The term fading is used to describe (1) "leaning or stretching out" a ___________ schedule and (2) progressively removing _______ or ________.

reinforcement
cues, prompts

"Stretching or leaning out" the schedule of reinforcement refers to the process of gradually requiring more performance of the behavior before reinforcement will be given. This is an important step in the process of reducing a client's reliance on tangible and token reinforcers. You will remember that one of the goals of modification is to move from reliance on tangible and token reinforcers to reliance on activity, social and intrinsic reinforcers.

When you "stretch or lean out" a reinforcement schedule, you gradually require more performance of a __________ before the ____________ is given.	behavior, reinforcement
Guidelines for stretching the schedule of reinforcement You should keep these things in mind when you stretch the schedule of reinforcement: a. Avoid reducing the total amount of reinforcement received by the client because the removal of positive reinforcement constitutes punishment. If you reduced the amount of reinforcement you would be in the position of punishing desirable behavior. You could, however, reduce the amount of tangible and token reinforcers in those cases where the client expresses disinterest in them and where the behavior appears to be maintained by activity, social or intrinsic reinforcers. b. Stretch the schedule by requiring a larger number of responses or a longer interval of time before providing reinforcement. However, when the reinforcement is delivered, initially it should equal the total amount the client would have earned with that particular number of responses or that particular length of time on the old schedule. c. Remember, a sudden halt to a particular behavior modification program or demands for large improvements in required client behavior can bring back former problems. d. Do not begin the stretching out process until the client's behavior begins to approximate the level at which you feel comfortable.	
Indicate which of the following statements is true or false. 1. In leaning out a reinforcement schedule, reduce the total amount of reinforcement received by the client right away. ____True ____False	1. False

2. You should stretch the reinforcement schedule by requiring a larger number of responses or a larger interval of time before providing reinforcement.

____True ____False

2. True

As mentioned earlier, fading out the cues refers to the process of gradually and progressively removing the cues or prompts which have (1) caused the particular behavior to be emitted or (2) which have marked the occasion on which the particular behavior, if emitted, would be reinforced. You should keep the following three rules in mind when you start the fade out cues:

a. Fading is the act of gradually changing the cues in the client's environment.
b. Once the prompts, gestures, and instructions have served the purpose of helping communicate with the client, they must be gradually withdrawn. This is the point at which the worker uses fading. In general, physical prompts should be faded before gestures. Gestures should be faded to the point where a single simple command elicits all the desired behavior.
c. Every client is different and will learn at a different rate. For this reason, the worker must use his judgment to determine when to begin fading. A general rule to follow is: Do not begin fading until the client has completely mastered the target behavior with the use of instructions, gestures, and prompts.
d. If the client becomes confused and is unable to successfully complete the target behavior, the worker may be fading too fast. If cues are being removed too quickly, reintroduce them to reestablish stimulus control of the target behavior, then proceed more slowly.

Indicate which of the following statements are true and which are false.

1. In fading cues, make sure your procedure is gradual.

____True ____False

1. True

2. In general, gestures should be faded before physical prompts.

____True ____False

2. False

3. Avoid fading until the client has completely mastered the target behavior.

_✓_ True ____ False

3. True

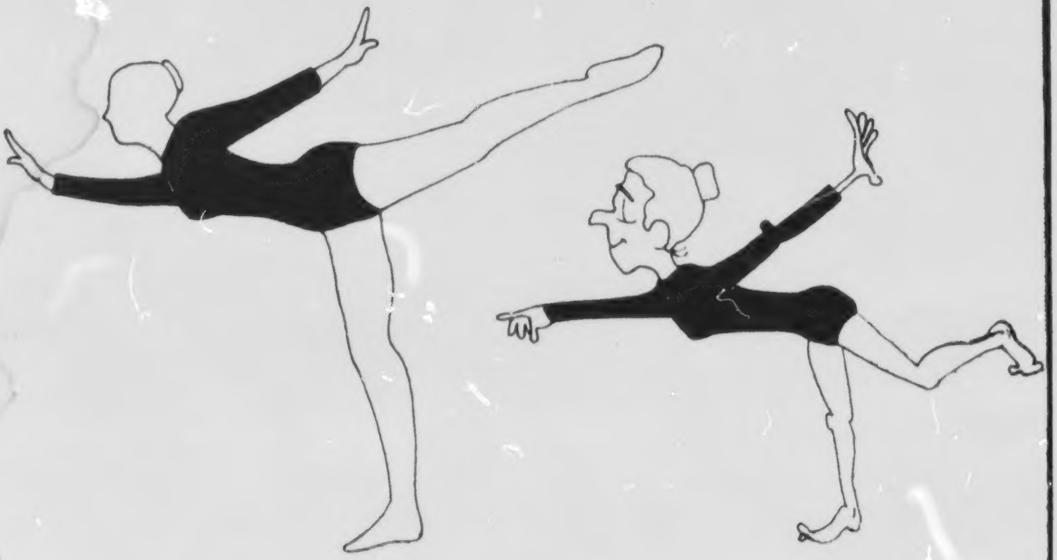


Figure 8. In shaping, the client is reinforced for making closer and closer approximations to the desired behavior.

Shaping Procedures

In shaping, we help the client acquire new behaviors instead of just strengthening behaviors that he already has in his behavioral repertoire. We do this by reinforcing the client for making closer and closer approximations to the desired behavior.

In shaping, we reinforce the client for making closer and closer ____________ to the desired behavior.

approximations

With shaping, the desired behavior is broken down into small pieces or steps, with each successive step requiring only a little more on the client's part than the previous step. The client is started off with a step he can easily handle and is reinforced for successfully performing that behavior.

In shaping, make sure that each successive step you come up with require only a ________ more on the client's part than the previous step.

little

As you proceed with shaping, you withold reinforcement for the first step--requiring the client to perform the next step before you provide reinforcement. By reinforcing successive approximations, you gradually teach the desired behavior.

In shaping, you reinforce successive __________ thus, gradually reaching the desired behavior.

approximations

Prompting is sometimes helpful in shaping. In prompting, we show a person how to do or say something. It can be used to help teach a client to take the next step in a shaping program. Remember, however, that prompts are faded out--or gradually eliminated--as they become unnecessary.

In prompting, you _____ a person how to say or do something.

show

The basic steps involved in shaping:

Step 1. Identify a reinforcer, and increase its effectiveness by depriving the client of it.
Step 2. Identify the final behavior you desire to obtain.
Step 3. Identify a current client behavior which can be shaped toward the final behavior (even one that is remotely related).
Step 4. Plan likely steps to follow the first behavior that you will reinforce.
Step 5. Reinforce the client for performing the first approximation in the sequence.
Step 6. Once the client is performing that approximation regularly, stop reinforcing him for it. Then before his approximation behavior weakens, reinforce him for the next step. When necessary, prompt him by showing or telling him what to do.
Step 7. Repeat step 6 for the next behavior in the sequence. Continue this way until the final, desired behavior is reached.

Any time that a behavior seems too difficult for the client to perform, drop back a little to prevent him from stopping to perform completely.

Chaining of Behavioral Components

Chaining procedures are used to teach those behaviors which usually occur in a fixed order, such as dressing or undressing. In chaining, each target behavior is first taught singly by using the successive approximation approach discussed above. Then they are "conditioned" together.

Chaining involves "conditioning" behaviors which occur in a fixed order, together, such as undressing.

____True ____False

True

The distinguishing characteristic of chained behaviors is that the target behavior is taught backwards. That is, the last step of the task is taught first. Thus, the client is initially taught to finish the task, not begin it. The popular notion to "begin at the beginning" does not apply to chained activities. When an activity is to be taught by chaining, you must "begin at the end."

In chaining, you teach the last step of the task first.

____True ____False

True

The chaining process is described in the following material.

DRESSING CONSISTS OF SEVERAL COMPONENTS SUCH AS THE FOLLOWING, WHICH MUST BE "TIED" TOGETHER BY CHAINING, SO THAT WHEN THE SINGLE COMMAND "GET DRESSED" IS GIVEN, THEY ALL OCCUR.

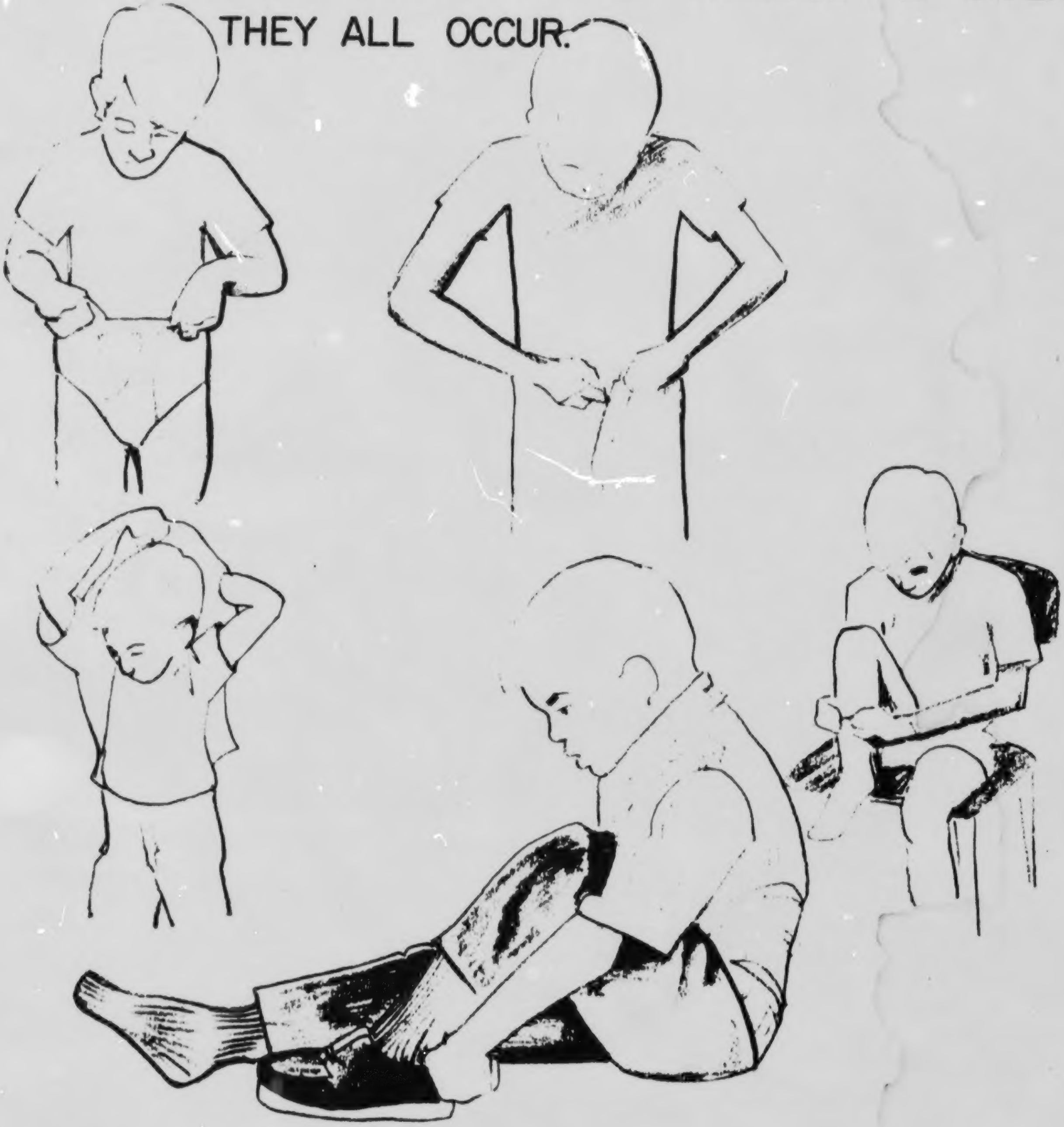


Figure 10. CHAINING IS USED TO "TIE" BEHAVIORAL COMPONENTS TOGETHER.

1. To illustrate chaining, we will assume that dressing consists of five distinct behavioral components:

   i. Putting on underwear
   ii. Putting on pants or slacks
   iii. Putting on a shirt or blouse
   iv. Putting on socks
   v. Putting on shoes

2. Each of these five components of dressing behavior are first conditioned singly using the successive approximation procedure we discussed earlier. Then they are conditioned together, one at a time, using the following chaining procedure.

   i. The worker begins by having the client put on his underwear, pants, shirt, and socks. Then he would say to the child, "Get dressed", and have him put on his shoes. The worker would reinforce the child using a bridging signal such as "good boy" accompanied by a tangible reinforcer and perhaps a pat on the back or a hug.
   ii. Then the worker would have the client put on his underwear, pants, and shirt. He would say, "Get Dressed" having him put on his socks. Verbal reinforcement plus a tangible reinforcer such as Koolade or candy and perhaps a social reinforcement such as a pat on the back or hug.
   iii. Next, the worker would have the client put on his underwear and pants. He would say, "Get Dressed" have him put on his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
   iv. Then, the worker would have the client put on his underwear. He would say, "Get Dressed," have him put on his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
   v. Finally, the worker would tell the nude child, "Get Dressed", have him put on his underpants for verbal reinforce-

ment, his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.

3. This chaining or "tying together" process has to be conducted very slowly over many training sessions in order to successfully chain the behaviors in question.

4. Once all the behavioral components have been successfully chained, fading procedures such as these we discussed can be begun. The worker begins to drop out the verbal reinforcement after underwear, then pants, then shirt, then socks, and so on until the only reinforcement left is the one administered at the end of the desired behavior sequence. This must be done slowly. Otherwise, the chained behavior you worked so hard to establish may not persist.

Modeling

In behavior modification therapy, considerable use is made of modeling. In this procedure, the model demonstrates the behavior to the person who is to learn it. The client then practices the new behavior, being guided through it step-by-step by the model.

Five guidelines have been identified as being essential for effective modeling. They are:

a. Model the desired behavior many times, using different models.
b. Shape the behavior gradually.
c. Guide or coach the client through each step.
d. While guiding the person through a difficult step, use physical contact such as resting your hand on the person's arm.
e. Provide reinforcement at each step during the modeling process.

List the five guidelines suggested for effective modeling:

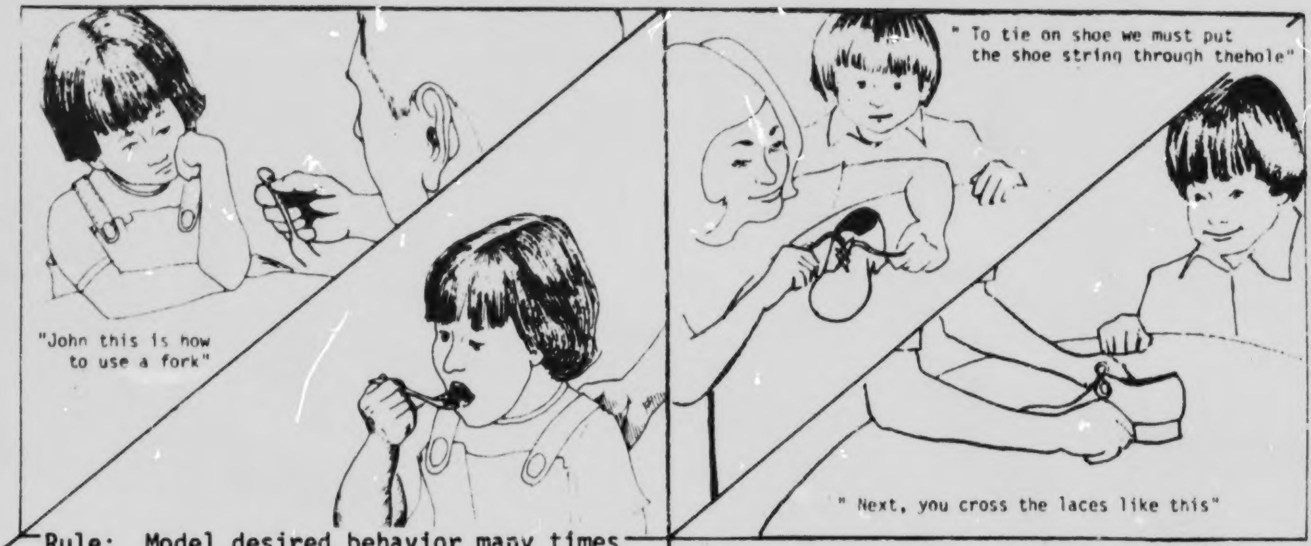
1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________

SOLUTION:

The guidelines for effective modeling are:

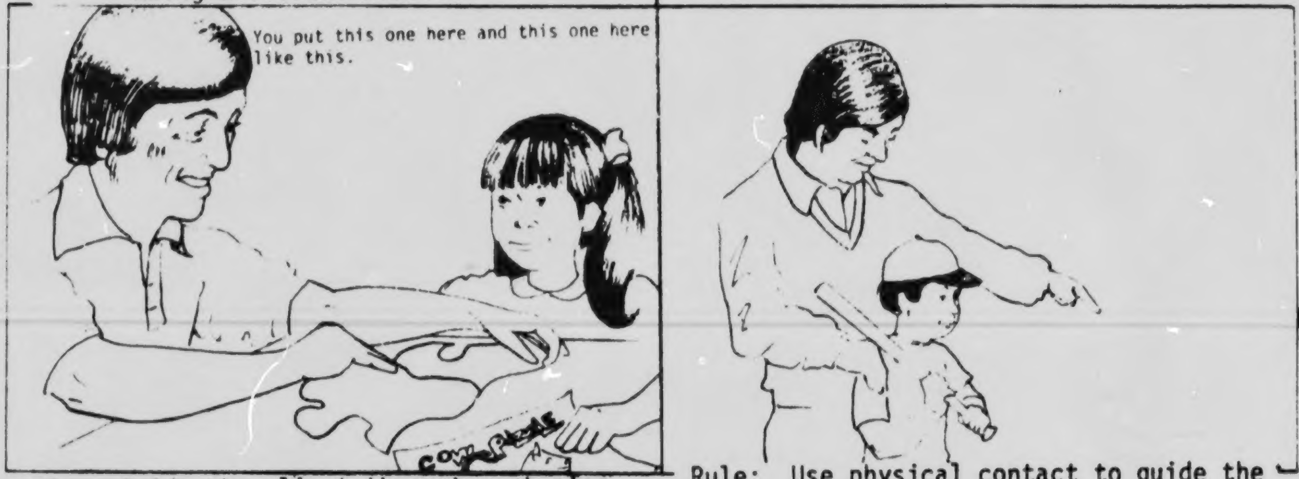
1. Have different models go through the desired behavior many times.
2. Gradually attempt to shape the desired behavior.
3. Guide or coach the client through each step.
4. Use physical contact with the client to guide him through the steps.
5. Provide reinforcement at each step during the modeling process.

Figure 10 contains illustrations of how the above rules may be applied.


"John this is how
to use a fork"
" To tie on shoe we must put
the shoe string through thehole"
" Next, you cross the laces like this"

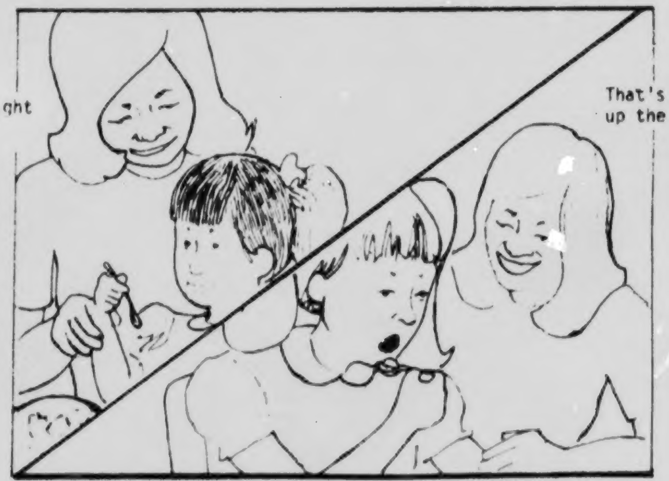
Rule: Model desired behavior many times using different models.

Rule: Shape desired behavior gradually.


You put this one here and this one here
like this.

Rule: Guide the client through each step.

Rule: Use physical contact to guide the client through a difficult step.


Good girl, you hold the spoon tight
in your hands."
That's right use the spoon to scoop
up the strawberries."

Rule: Reinforce at each step during the modeling process.

FIGURE 10. RULES FOR MODELING

Student Quiz 100-5
Code 76-8

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

Specific Techniques In Behavior Modification

Multiple Choice Items

1. Which of the following interventions can be used to strengthen behavior?

   a. The negative reinforcement principle
   b. The Premack Principle
   c. The positive reinforcement principle
   d. all of the above

2. Which of the following constitute the two basic schedules of reinforcement used in behavior modification:

   a. continuous and external
   b. intermittent and intrinsic
   c. continuous and variable
   d. continuous and intermittent

3. If your behavior modification program does not appear to be working, which of the following factors might be contributing to the failure?

   a. wrong kind of reinforcer being used
   b. too little reinforcer being used
   c. failure to adequately identify and define the target behavior
   d. all of the above

4. Which of the following statements represents the central idea in the Premack principle?

   a. high frequency behaviors represent things the client "likes" to do and thus have reinforcing value
   b. if an intervention program is not working, you are probably not reinforcing soon enough
   c. goods, activities and/or privileges are "purchased" with point values the client earns
   d. none of the above

5. Which of the following interventions can you use to weaken a behavior?

   a. extinction
   b. chaining
   c. prompting
   d. all of the above

6. Which of the following is an example of time out?

    a. removing the client from a reinforcing environment and isolating him in a neutral area
    b. removing a positive reinforcer from the client's possession
    c. placing a patient under physical restraint
    d. a and b

7. In using restitution as a specific intervention technique, you should

    a. make sure the restitution is directly related to the misbehavior
    b. make sure the restitution occurs immediately after the misbehavior
    c. minimize social interactions with the client during restitution
    d. all of the above

8. Chaining procedures are used to

    a. eliminate undesirable behaviors
    b. teach behavior which usually occur in fixed order
    c. reduce the client's reliance on extrinsic reinforcers
    d. none of the above

True - False Items

9. A client's behavior will be strengthened if his or her behavior is followed immediately by a positive consequence.

_____True _____False

10. Extinction describes the situation experienced by the client who has received too much reinforcement, is filled up, and wants no more.

_____True _____False

11. In negative reinforcement, a behavior is strengthened because it terminates an aversive or unpleasant event.

_____True _____False

12. Punishment tends to suppress behavior - not weaken it.

_____True _____False

13. If you must use punishment in a behavior modification program, impose it immediately after the occurrence of the behavior and make it a specific consequence of that behavior.

_____True _____False

14. Response cost refers to the contingent removal of reinforcement for a specified period of time.

_____True _____False

15. When attempting to extinguish a behavior by ignoring it, you need to be careful that you don't reinforce it intermittently - thus strengthening it.

_____True _____False

16. Overcorrection is the process in which you weaken an initial behavior by identifying and reinforcing a behavior which is incompatible with it.

_____True _____False

17. In restitution, a client is required to restore the situation to a state vastly improved from that which existed prior to the disruption he caused.

_____True _____False

18. Many inappropriate behaviors involve specific stimulus control problems instead of inappropriate rates of behavioral response or performing a behavior which is itself objectionable.

_____True _____False

19. To establish a control stimulus, you arrange the situation so that a behavior occurs in the presence of a particular stimulus and then reinforce the behavior.

_____True _____False

20. In fading out cues, it is more efficient to remove the cues abruptly than it is to remove them gradually and progressively.

_____True _____False

21. Combining a variable interval and a variable amount schedule is one way you can help bring about behavior that is resistant to extinction.

_____True _____False

22. In shaping, we help the client acquire new skills rather than just helping to strengthen new behaviors that he already has in his behavioral repertoire.

_____True _____False

23. A distinguishing feature of chaining is that the target behavior is taught backwards. That is, the last step of the task is taught first.

_____True _____False

24. In teaching self-help skills such as dressing, chaining would be of little value.

_____True _____False

25. In the shaping technique, the desired behavior is broken down into small pieces or steps, with each successive step requiring only a little more than the previous one.

_____True _____False

Completion Items

26. ___________________ describes the situation which the client is not getting enough of the reinforcer under consideration.

27. _________________________refers to a reinforcement schedule in which the behavior you are concerned with is reinforced every time.

28. __________________reinforcement operates to strengthen behavior and makes it last longer than does ____________________ reinforcement.

29. When a behavior leads to a negative or aversive consequence, it makes the person engaging in that behavior want to _______________ the situation.

30. ____________________refers to the contingent removal of reinforcement for a specified period of time.

31. ___________________is the contingent withdrawal of a specified number of reinforcers.

32. __________ refers to the process in which a behavior is weakened when it is not followed by reinforcement.

33. _______________ describes the procedure in which a client is required to engage in a particular behavior until he tires of it.

34. In _______________ the disruptive client is required to intensively practice overly correct forms of relevant behavior.

35. In _______________________ training, a response is reinforced in the presence of a certain cue or stimulus and is not reinforced in the presence of another cue.

Solution To Student Quiz 100-5
Code 76-8

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

Specific Techniques In Behavior Modification

1. d
2. d
3. d
4. a
5. a
6. d
7. d
8. b
9. True
10. False
11. True
12. True
13. True
14. False
15. True
16. False
17. True
18. True
19. True
20. False
21. True
22. True
23. True
24. False
25. True

Completion Items

26. deprivation
27. continuous reinforcement
28. intermittent, continuous
29. escape
30. time out
31. response cost
32. extinction
33. satiation
34. positive practice
35. discrimination

Programmed Student Handout 100-5A
Paraprofessional Level
Code 76-12

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

SPECIFIC TECHNIQUES AND PROCEDURES IN BEHAVIOR MODIFICATION

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

This handout will be devoted to a discussion of specific techniques and procedures used in behavior modification. Among other things, we will be discussing shaping, chaining, prompting, and fading. We will also consider the techniques of restitution, over correction, and time out, which you may--at some time or another--need to employ. This is because not all techniques and procedures will "work" with all clients. You need to be proficient in using a variety of techniques and flexible enough to use them where indicated.

In preceding handouts, we have discussed the various principles which form the basis for behavior modification therapy. Now, we will discuss in more detail several specific strategies which you can use for strengthening, weakening and teaching desirable behaviors.

Three specific interventions can be used to strengthen behavior. They are:

a. The Positive Reinforcement Principle
b. The Premack Principle
c. The Negative Reinforcement Principle

The three specific interventions we can use to strengthen behavior are:

1. ______________________________

2. ______________________________

3. ______________________________

The Positive Reinforcement Principle
The Premack Principle
The Negative Reinforcement Principle

Overview of the Positive Reinforcement Principle

Positive reinforcement means a client's behavior will be strengthened if it is rewarded or reinforced.

Example: The client was praised when he ate his meal with the proper utensiles. As a result, eating with knife, fork and spoon began to occur more often.

A client's way of acting (behaving) changes something in the world around him. These changes are called consequences. A consequence follows a behavior.

When a behavior consequence increases the chances

that a behavior will occur again, it is called a reinforcer. The consequence which causes behavior to happen more often is called a reinforcer. Many things can be reinforcers, such as money, attention, food, drink, and praise. What may be reinforcing for one person may not be a reinforcer for many others. A person's way of behaving will be strengthened if it is rewarded or reinforced. The Positive Reinforcement Principle tells us that a client's behavior will be ____________ if it is followed by a positive ______.	strengthened consequence

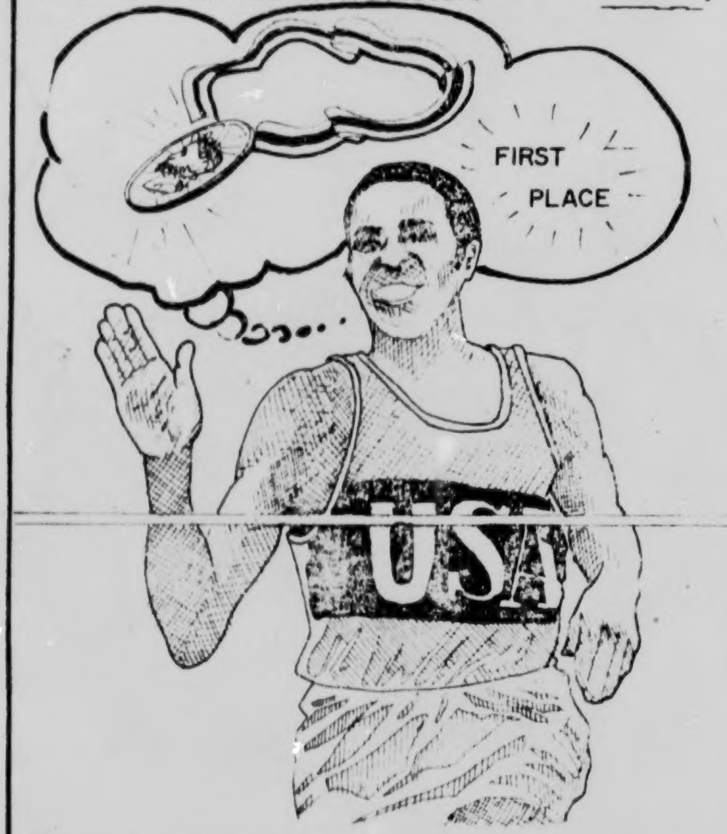


Figure 1. You need to make sure that the reinforcer you are using is really reinforcing.

The Need to Make Sure that the Reinforcer is Reinforcing

You need to always keep in mind that an object,

experience, activity, or comment acts as a reinforcer only if, when it follows a behavior, it increases the likelihood that the behavior will occur again.	
Any object, experience, activity or comment acts as a reinforcer ONLY if, when it follows a behavior, it ______________________________.	increases the likelihood that the behavior will occur again.
The Need to Reinforce the Behavior with the Correct Amount	
For a reward (or reinforcement) program to work, you must use the right amount of reinforcement. Too much reinforcement can cause a client to become overloaded, or what we call satiated.	
This means the reinforcer loses its power to motivate the client. When a client has had too __________ of a reinforcement he becomes __________.	much satiated

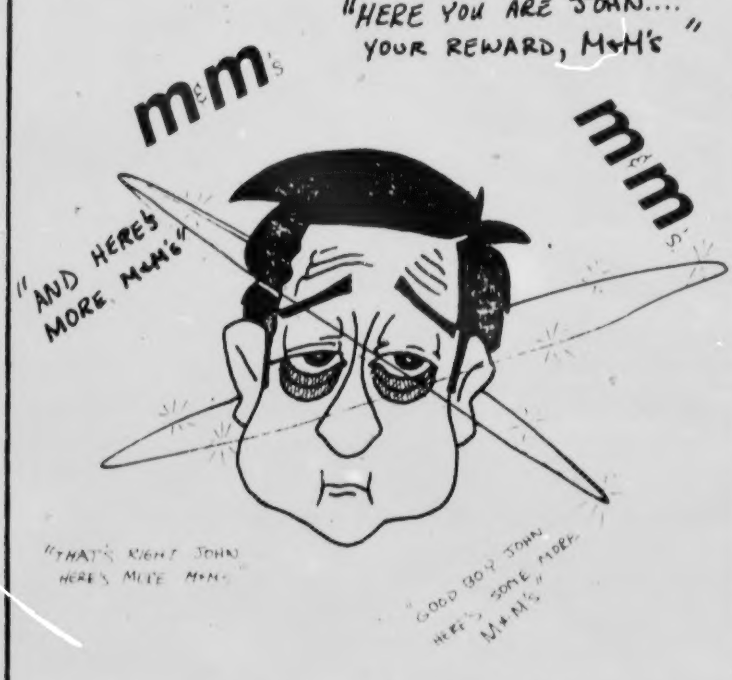

"HERE YOU ARE JOHN.... YOUR REWARD, M+M's"
m&m's
m&m's
"AND HERE'S MORE M+M's"
"THAT'S RIGHT JOHN HERE'S MORE M+M's"
"GOOD BOY JOHN HERE'S SOME MORE M+M's"

Figure 2. Too much reinforcement causes the client to become satiated.

Remember for a reinforcement to be effective, it is important to remember the following points:

1. Reinforcement must be contingent on behavior. That is, it must be given only for behaviors you want the client to perform.

2. Reinforcement must be given immediately following the desired behavior to be effective.

3. Reinforcement frequency must be determined. That is the rate a reinforcement is given. Generally, the effect of reinforcement is greatest when a behavior is just being acquired (being newly learned).

4. Reinforcement will not be effective in generating or maintaining a behavior if too little of the reinforcer is given. The quantity of the reinforcer is important. Too little may cause the client to believe "it isn't worth the trouble".

5. Reinforcement, if given in large amounts in a brief period may cause the client to become satiated. Satiation can be a result of a high rate (frequency) of reinforcement or a large amount of the reinforcement.

Scheduling Considerations

The term schedule of reinforcement means the way reinforcement is given.. Reinforcement may be given after a certain number of responses occur from the client.

Example: The client is given a reinforcement after every fifth word he reads aloud.

Reinforcement may be given after a certain, stated amount of time has gone by.

Example: The client is given a reinforcement after every 10 minutes if he is reading aloud.

There are two basic kinds of schedules of reinforcement. These are continuous and intermittent.

The two basic kinds of reinforcement schedules are ____________ and ______________.

continuous
intermittent

A SCHEDULE OF REINFORCEMENT COULD INVOLVE DELIVERY OF A REINFORCER AFTER:

1. A GIVEN AMOUNT OF TIME ELAPSES.
2. A CERTAIN NUMBER OF RESPONSES OCCURS.

Figure 3. Continuous Reinforcement Schedule

Intermittent reinforcement helps to strengthen behavior and make it last longer than does continuous reinforcement.	
Which reinforcement schedule operates to strengthen a behavior and make it last longer?	intermittent
It is very important to be systematic (to be orderly and regular) in using reinforcements.	
Example: Token reinforcers are given to a client for studying self help skills. The tokens can be used to buy certain items by the client.	
After the client has learned the behavior (studying self help skills) tokens are given intermittently along with lots of praise by staff members.	
Continuous reinforcement schedule means you reinforce (or reward) the behavior you want every time it happens, on a continuous schedule.	
On a continuous schedule, you reinforce behavior ________ time it happens. This is very important when you first begin to ________ a behavior.	every teach
An intermittent reinforcement schedule means you reinforce (or reward) the behavior you want only occasionally (once in a while). After the behavior you want is established by using a continuous reinforcement schedule, you stop reinforcing it continuously and begin to reinforce it intermittently (once in a while).	
Studying the self-help skills becomes reinforcing for the client by itself. The process of learning new skills and solving new problems is reinforcing for the client. Tokens and praise (social reinforcement) becomes less and less necessary. This is the goal in BTM programs.	

The aim in BTM is to move from things like ____ reinforcers, to ____ reinforcement and finally to have, for example, learning new skills be reinforcing in itself.	token social

What to do if the positive reinforcement program doesn't seem to be working. The following questions need to be asked:

a. Has the target behavior been defined?
b. Have you been consistent?
c. Are you asking for too much change at one time?
d. Are you using the wrong kind of reinforcer?
e. Are you providing too much reinforcement?
f. Are you giving too little reinforcement?
g. Are you not reinforcing soon enough?
h. Are you reinforcing too often?
i. Are you providing reinforcement often enough?
j. Is the program too hard for the client to understand?

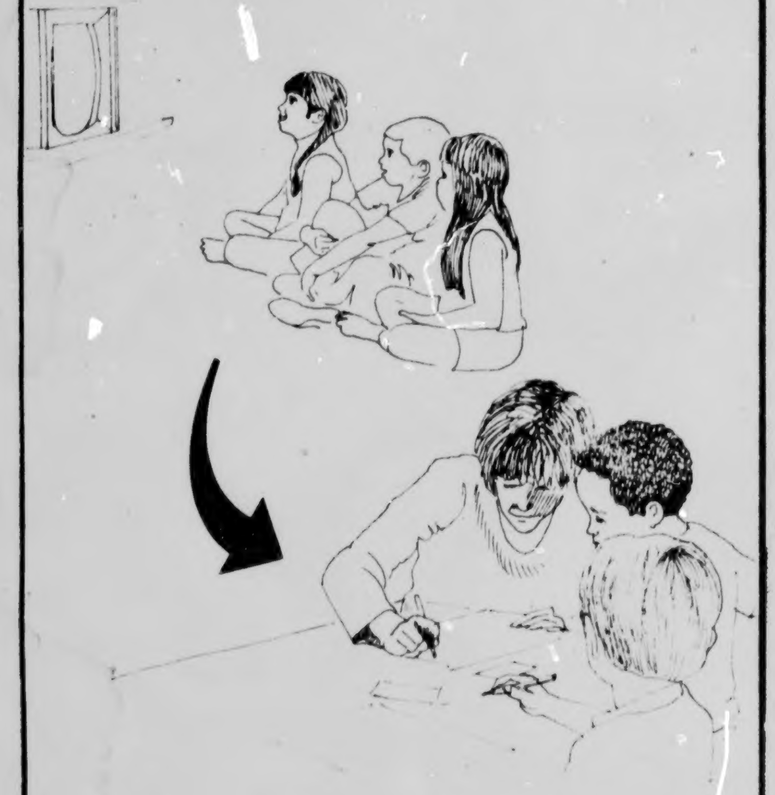


Figure 4. The Premack Principle use high frequency behaviors (those things the person does often) to reinforce low frequency behaviors (those things the person does only once in a while)

The Premack Principle is a Specific Technique

The Premack Principle centers on the fact that behavior that occurs often (high frequency behavior) can be used to reinforce behavior that only happens once in a while (low frequency behavior). This can be useful.

All you have to do is to identify the person's high and low frequency behaviors.

High frequency behaviors are things the person "likes" to do.

The Premack Principle says a ______ frequency behavior can be used to reinforce a __________ frequency behavior.

high
low

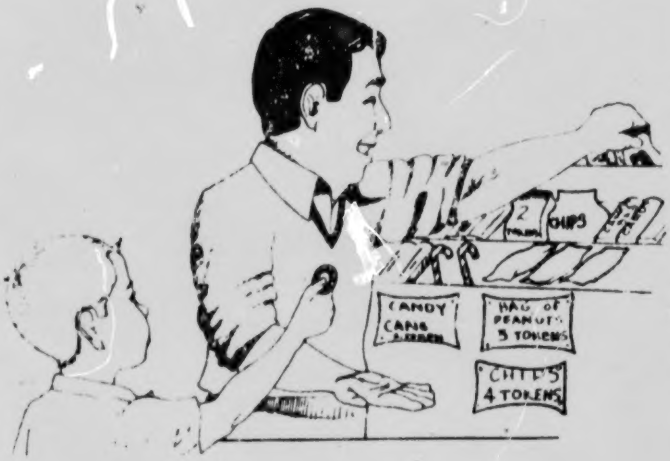


Figure 5. Use positive reinforcers (things people like) when you can instead of negative reinforcers (things people don't like).

It is better to use positive reinforcement than negative reinforcement.

_____True _____False

True

Negative Reinforcement as a Specific Intervention Technique

Negative Reinforcement can also be used to strengthen behavior. The behavior concerned is strengthened because it terminates an aversive or unpleasant event. Since the negative reinforcement principle applies only when negative reinforcers are present, it is not the most effective intervention strategy. In general, your time and energy should not be unduly devoted to identifying negative reinforcers but rather to learning to recognize positive reinforcers and to increasing the total amount of positive reinforcement your client receives. It is much better to "turn on" positive reinforcers than to "turn off" negative ones.

In developing an intervention program, it is much more productive to use positive reinforcement than change behavior, clients learn by imitation that being aggressive and punitive is seemingly acceptable behavior.

The Goal--Self-Reinforcement

First, you need to decide what consequences will follow what behaviors in order to teach your client the right behaviors.

As the client learns and understands more, he can be taught to manage his own behavior.

He can learn self-reinforcement or self-control. This is the goal of any program.

The goal in any intervention program should be one of getting the client to ________________
____.

manage his own behavior

Up to now, we have been talking about ways for strengthening and maintaining behavior. Now we will look at ways to weaken and stop bad behavior.

Five ways (or methods) to be used to weaken a behavior are:

a. The Punishment (Type I) Principle
b. The Punishment (Type II) Principle
c. The Extinction Principle
d. The Reinforcement of Incompatible Behaviors Principle
e. The Satiation Principle

What are the five specific interventions which can be used to weaken a behavior?

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________

1. Punishment (Type I)
2. Punishment (Type II)
3. Extinction
4. Reinforcing Incompatible Behavior
5. Satiation

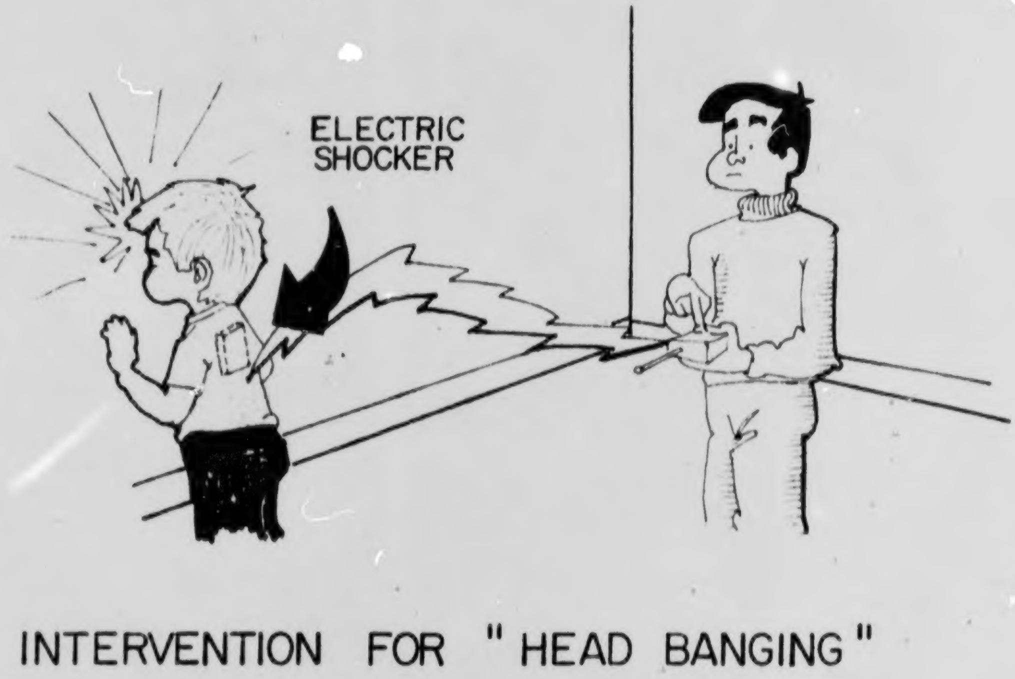


Figure 6. Type I Punishment means "turning on" an unpleasant event.

Type I Punishment means a client's behavior has the consequence (causes) of "turning on" an unpleasant (aversive) event.

Type I Punishment "turns on" an ____________ event.

unpleasant

Note, this usually suppresses behavior but does not weaken it.

Keep in mind Type I Punishment can:

a. cause bad feelings about oneself
b. cause a client to counter-attack
c. act as a model for aggressive behavior (client learns by acting like model)

A disadvantage of Type I Punishment is that it provides a ____________ for aggressive behavior.	model

If Type I Punishment must be used, you need to follow these rules:

a. The client must be punished immediately after the occurrence of the behavior and make it a specific consequence of the behavior.
b. Explain to the client why you are punishing him for that behavior
c. Each time you punish the client for a given behavior, use the same words. Your words can then be a cue for avoiding the behavior.

When you must use Type I Punishment, you should:

1. Punish ________ after the undesirable behavior.	immediately
2. Make the punishment a specific ________ of the behavior.	consequence
3. Explain to the client _________ you are punishing him.	why
4. Each time you punish for a given behavior, use the same ______ to verbalize the prohibition.	words

PUNISHMENT (TYPE II) INVOLVES THE REMOVAL OF A POSITIVE REINFORCER TO WEAKEN A SPECIFIC BEHAVIOR.

Figure 7. Type II Punishment is removal of a positive reinforcement.

The Punishment (Type II) Principle

Punishment (Type II) means the way a behavior is weakened when it is followed by taking away a positive reinforcer.

Two forms of punishment (Type II) are:

a. Time out
b. Response cost

List the two forms of punishment (Type II).

1. ________________
2. ________________

time out
response cost

In Type II Punishment, behavior is weakened by __________ _________ a positive reinforcer.

taking away

Time Out

Time out means removing the positive reinforcer for a certain period of time. In using time out you can:

a. take the client away from the reinforcing place (environment) and put him in a neutral (non-reinforcing) place for a certain period of time (usually five minutes) or
b. take away the positive reinforcer from the client's area for a short time.

In time out you (1) take away the client from a reinforcing place (environment) or (2) take away the positive reinforcer from the client.

_____True _____False

True

Response Cost

Response cost means the contingent taking away a specified amount of reinforcers.

Example: The client lost turn every time he cursed others. As a result, the cursing began to occur less often.

The client's "turn" was the reinforcer, and the response cost was losing his turn.

When you use response cost as a method, you _____ ______ a specified amount of the ________.

take away, reinforcer

Extinction Principle

You will remember from earlier handouts that extinction refers to the process in which behavior is weakened when it is not followed by reinforcement. Extinction is stopping the reinforcement that has followed the behavior.

The result of extinction is that a behavior occurs less often and usually will stop altogether after some time passes without getting reinforced.

Example: The client stopped spitting food on the floor when his spitting was ignored. The staff acted as though nothing had happened instead of paying attention to him like they use to.

Remember the best way to make sure a behavior continues is to reinforce that behavior. So it follows, that a good way to make sure a behavior stops is to withdraw the reinforcer.

Keep in mind:

1. All the staff must be consistent. If one staff member trys to ignore an undesirable behavior and the other staff members pay attention to it, the behavior will not be weakened.

2. When you attempt to extinguish a behavior by ignoring it, be careful you do not reinforce it once and awhile.

   Remember reinforcing behavior once in awhile (intermittent reinforcement) will strengthen that behavior.

If you are not careful during an extinction intervention program, you could wind up strengthening a target behavior instead of weakening it.

_____True _____False

Reinforcement of Incompatible Behavior as a Specific Intervention Technique

The reinforcement of incompatible behavior principle means the process in which you weaken a behavior by reinforcing a behavior which is incompatible with it.

Example: Approaching and interacting with other clients is incompatible with (won't go with) shyness and withdrawn behavior. You reinforce the approaching and interacting behaviors and thus weaken the shy and withdrawn behavior.	
This example explains the intervention technique called ______________________________.	reinforcement of incompatible behaviors
Remember earlier we identified satiation as the condition of having received large amounts of a reinforcer in a brief period which resulted a decrease in the rate and likelihood of that behavior occurring.	
Example: The client is given two cookies (a known reinforcer) for each correct answer in an education program which begins right after the noon meal. The client has previously learned the material, so might work well at the beginning of the session and then begin to show less interest and finally stop working altogether. The reinforcer has lost its effectiveness. This loss of effectiveness is probably due to satiation (too many cookies). A large quantity of the reinforcer was given per reinforcement for a task the client has learned before.	
There is another form of satiation which is called over correction. A term used to describe the situation in which a client is required to engage in a particular behavior until he tires of it.	
Example: The client has the unpleasant habit of spitting anywhere in the dormitory. Whenever he is found doing this, he is required to stand outside and spit and spit.	
This is an example of a satiation intervention technique called ______________________.	over correction
Restitution is an over correction technique which can be helpful to educate a client that results (outcomes) are contingent upon behavior. He is educated to assume responsibility for his behavior.	
Example: A client overturns a table a meal time. He would be required to:	
1. restore the table to its correct position	

2. clean up the mess 3. dust and wax the table 4. apologize to all others at the table for the mess.	
The client is required to restore the situation to a state much improved from that which existed prior to the situation.	
In restitution, the client is educated to assume ________________ for his behavior.	responsibility
Restitution is more effective if directly related to the client's misbehavior. Keep in mind: a. the staff should not be punitive or arbitrary, they should be consistent and follow the written BTM procedure b. the client should experience directly the consequences of the disruption created by his misbehavior.	
It is important that any restitution be directly ______________ to the client's misbehavior.	related
Restitution should occur immediately following a client's misbehavior because the greater the time between a behavior and the negative contingency the less effect this will have on the behavior.	
Restitution should be _________________.	immediate
Positive Practice as an Intervention Method	
Positive practice is related to over correction.	
Example: A client who has completed a prescribed toilet training procedure, urinates on the floor. Following restitution (cleaning up the area), the client is required to go through a positive practice (over correction) procedure of walking to the toilet six times.	
Positive practice involves having the disruptive client practice overly ___________ forms of the behavior.	correct
Required Relaxation as an Intervention Strategy or Time out	
Required relaxation or time out, may be prescribed as an overcorrective practice in certain cases. The technique involves overcorrective practice in	

being calm and relaxed.	
Example: The staff wanted to do something about the client's behavior problem of hurting other clients by biting, kicking, and hitting them. Each time an incident such as this occurred, the client was required to spend an extended period in relaxation (in his or her bed). This required relaxation is incompatible with further disruption. Thus, the required relaxation or time out served to:	
a. correct the client's state of agitation b. protect the other clients	
List the advantages of using required relaxation (or time out) an an intervention technique:	
1. ____________________	corrects a client's state of agitation
2. ____________________	protects the other clients
Required relaxation (time out) intervention procedures should provide for:	
a. the client's immediate physical removal from the disruptive situation. b. the use of a location which is quiet, so as to enhance the process of learning to relax.	
Remember: Required relaxation (time out) is not seclusion and isolation. Nor is this a way of getting around the guidelines on seclusion. Required relaxation (time out) is for a specified period of time (usually 5 or 10 minutes) and the client is verbally instructed as to behavioral contingencies involved.	
If you use required relaxation as an intervention strategy, you should __________ remove the client from the disruptive situation.	immediately
Stimulus control	
The principle of stimulus control involves the teaching of a behavior in such a way, that when learned, it will occur at the right time and in the right place.	
Steps to be taken in gaining stimulus control are:	

a. identify the problem behavior b. identify the environmental stimuli which elicit or reinforce the problem behavior c. identify the alternatives available to eliminate, restrict, or control the identified environmental stimuli. You then select one of these alternative and base the intervention strategy on it.	
When you are establishing a central stimulus, you arrange the situation to that the ___________ occurs in the presence of a particular stimulus. Then you ____________ the behavior.	**behavior** **reinforce**
Clients will learn faster (that is they will come under stimulus control) if they are trained: a. by the same person every day b. in the same room every day c. at the same time every day	
If you want a certain target behavior to occur in the presence of a particular stimulus, you must structure the situation so that the ______ gains control of the behavior.	**stimulus**
Stimulus control procedures have been used to help individuals to develop a variety of behaviors such as study skills, and to eliminate or decrease behaviors such as insomnia, overeating, and cigarette smoking. In each case, the individual comes to perform certain behaviors only in the presence of specific cues. The systematic association of a given set of cues (stimuli) with a specific behavior generally results in the cues (stimuli) gaining control over the behavior.	
The systematic association of a given stimulus with a specific behavior generally results in the ____________ gaining control over the behavior.	**stimulus**
To establish a control stimulus, you arrange the situation so that a behavior occurs in the presence of a particular stimulus. Then you reinforce the behavior. Specifically, you: a. identify the problem behavior b. identify the environmental stimuli which elicit or reinforce the problem behavior c. identify the alternatives available to eliminate, restrict, or control the identified environmental stimuli. You then select	

one of these alternatives and base your intervention strategy on it.

When you are establishing a central stimulus, you arrange the situation so that the ____________ occurs in the presence of a particular stimulus. Then you ____________ the behavior.

behavior

reinforce

Remember that clients will learn faster (that is they will come under stimulus control) if they are trained:

1. by the same person every day
2. in the same room every day
3. at the same time every day

Generalization

In working with clients, you will find that they sometimes have difficulty in generalizing. Generalizing refers to being able to learn something and then applying it to other similar situations. For example, a client might learn to go to the bathroom on his dormitory; but then, because of the absence of known stimulus controls he might not be able to go to the bathroom in another building. He would not be able to generalize from one bathroom to another. In this case, he must be introduced to a new set of stimulus controls in each building and must associate going to the bathroom with each building--such as in the schoolroom or in the doctor's office--as well as in his dormitory. Obviously, the cooperation of all staff members is required to introduce each client to new stimulus controls in the various settings where he must function.

When a client is able to apply something he learned in one situation to another similar situation, he is said to be ________________.

generalizing

Fading

In this handout, we will be using the term fading to discuss the process of gradually removing the cues or prompts which have (1) caused the behavior to happen or which have (2) marked the occasion on which the behavior (if it happened) to be reinforced.

The term fading is used to describe the process of gradually removing the ______________ which caused the behavior to take place.

cues or prompts

Remember, one of the goals of BTM is to move from relying on tangible and token reinforcers to relying on activity, social and intrinsic reinforcers.

When you fade out a reinforcement schedule, you gradually require more performance of a given ____________ before the _________________ is given.

behavior, reinforcemment

Guidelines for fading the schedule of reinforcement

Keep these things in mind:

a. Avoid reducing the total amount of reinforcement received by the client because the removal of positive reinforcement constitutes punishment. If you reduced the amount of reinforcement totally, you would be in the position of extinguishing positive or desired behavior. Remember the best way to stop a behavior from occurring is to remove all reinforcement for that behavior. But you can reduce the amount of tangible and token reinforcers while continuing the social, or intrinsic reinforcers.
b. Stretch out the schedule of reinforcement by requiring a larger number of responses or a longer interval of time before providing reinforcement.
c. Remember, a sudden halt to a particular behavior modification program or demands for large improvements in required client behavior can bring back former problem behavior.
d. Do not begin the stretching out process (fading) until the client's behavior begins to approximate the level at which you feel comfortable.

Indicate which of the following statements is true or false.

1. In stretching out a reinforcement schedule, reduce the total amount of reinforcement received by the client right away.

   _____True _____False

2. You should stretch the reinforcement schedule by requiring a larger number of responses or a larger interval of time before providing

reinforcement.

_____True _____False

As mentioned earlier, fading out the cues refers to the process of gradually and progressively removing the cues or prompts which have (1) caused the particular behavior to be emitted or (2) which have marked the occasion on which the particular behavior, if emitted, would be reinforced. You should keep the following three rules in mind when you start the fade out cues:

a. Fading is the act of gradually changing the cues in the client's environment.
b. Once the prompts, gestures, and instructions have served the purpose of helping communicate with the client, they must be gradually withdrawn. This is the point at which the worker uses fading. In general, physical prompts should be faded to the point where a single simple command elicits all the desired behavior.
c. Every client is different and will learn at a different rate. For this reason, the worker must use his judgement to determine when to begin fading. A general rule to follow is: Do not begin fading until the client has completely mastered the target behavior with the use of instructions, gestures, and prompts.
d. If the client becomes confused and is unable to successfully complete the target behavior, the worker may be fading too fast. If cues are being removed too quickly, reintroduce them to reestablish stimulus control of the target behavior, then proceed more slowly.

Indicate which of the following statements are true and which are false.

1. In fading cues, make sure your procedure is gradual.

   _____True _____False

True

2. In general, gestures should be faded before physical prompts.

   _____True _____False

False

3. Avoid fading until the client has completely

mastered the target behavior.

_____True   _____False

True

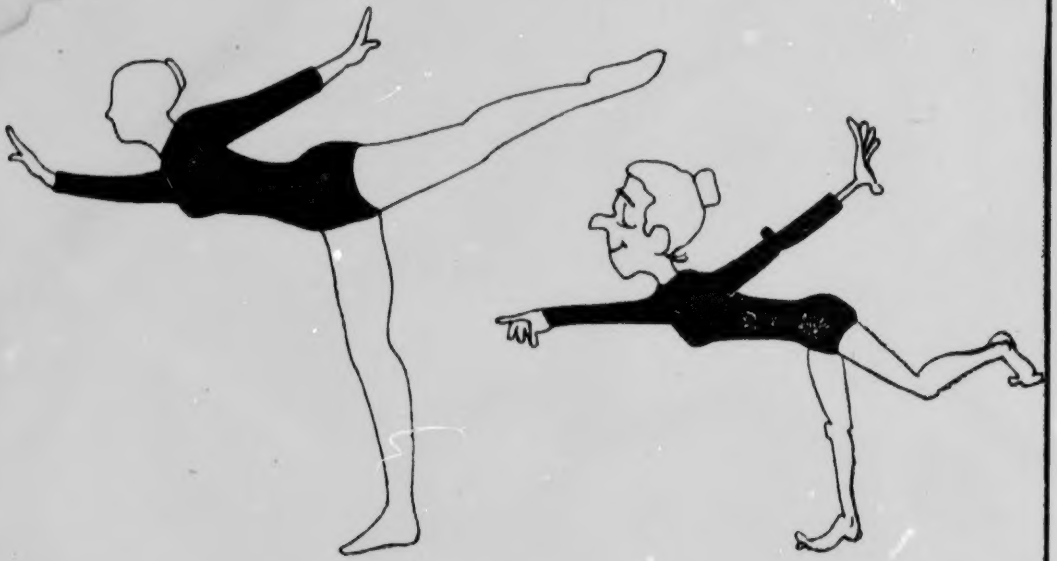


Figure 8. In shaping, the client is reinforced for making closer and closer approximations to the desired behavior.

Shaping Procedures

In shaping, we help the client acquire new behaviors instead of just strengthening behaviors that he already has. We do this by reinforcing the client for making closer and closer approximations to the desired behavior.

Shaping is the use of reinforcement to develop a new behavior by reinforcing behaviors which are gradually required to be more and more like the desired new behavior.

With shaping we can develop totally new behaviors by at first reinforcing some behavior that the person already does which is somewhat similar to the desired new behavior.

This procedure involves a series of steps with each successive step, the behavior required for

reinforcement has to be closer to the new behavior being taught.	
The desired new behavior is called the target behavior. The reinforced behaviors that are required to be more and more similar to the target behavior are called successive approximations.	
In shaping, we reinforce the client for making closer and closer __________________ to the desired behavior.	approximations
In shaping, make sure that each successive step you come up with require only a ____________ more on the client's part than the previous step.	little
In shaping, you reinforce successive _________ thus, gradually teaching the desired behavior.	approximations
Prompting is sometimes helpful in shaping. In prompting, we show a person how to do or say something. It can be used to help teach a client to take the next step in a shaping program.	
In prompting, you _________ a person how to say or do something.	show
The basic steps involved in shaping: 1. Identify the target behavior 2. Decide what successive approximations will be reinforced 3. Reinforcement	
Example: A client spent most of his time sitting and rocking. The staff wanted to eliminate the rocking behavior. The client was given a reinforcer every time he went a minute without rocking. Within a few days, the client was no longer rocking.	
Chaining of Behavioral Components	
Chaining procedures are used to teach those behaviors which usually occur in a fixed order, such as dressing or undressing. In chaining, each target behavior is first taught singly by using the successive approximation approach. Then they are "conditioned" together.	
Chaining involves "conditioning" behaviors which occur in a fixed order, together such as undressing.	

____True ____False

In the chaining of behaviors, the target behavior is taught backwards. That is, the last step of the task is taught first. The client is first taught to finish the task, not begin it.

Example: The behavioral goal for the client is to have the client feed himself. Thus, the target behavior is "to feed himself". The steps are:

1. The trainer assists the client in filling the fork or spoon, raising it to mouth, and returning it to the plate.
2. The trainer assists the client in filling the fork or spoon, raising it within 3" of the mouth, and returning it to the plate.
3. The trainer assists the client in filling the fork or spoon, raising it half way to the mouth, and returning it to the plate.
4. The trainer assists the client in filling the spoon or fork, the client guides it from plate to mouth, and the trainer assists in returning it to the plate.
5. Gradually the trainer fades the assistance.
6. After the client takes a bit, the trainer assists in returning the fork or spoon to within 3 " of the plate and assists in dipping and filling.
7. After the client takes a bite, the trainer assists in returning spoon or fork half-way to plate and assists in dipping and filling.
8. After the client takes a bite, the trainer gestures and gives spoken direction to return the spoon or fork to plate.
9. The client fills the spoon or fork, raises it to mouth, and returns it to the plate with only minimal assistance.
10. Client feeds self with no assistance.

DRESSING CONSISTS OF SEVERAL COMPONENTS SUCH AS THE FOLLOWING, WHICH MUST BE "TIED" TOGETHER BY CHAINING, SO THAT WHEN THE SINGLE COMMAND "GET DRESSED" IS GIVEN, THEY ALL OCCUR.

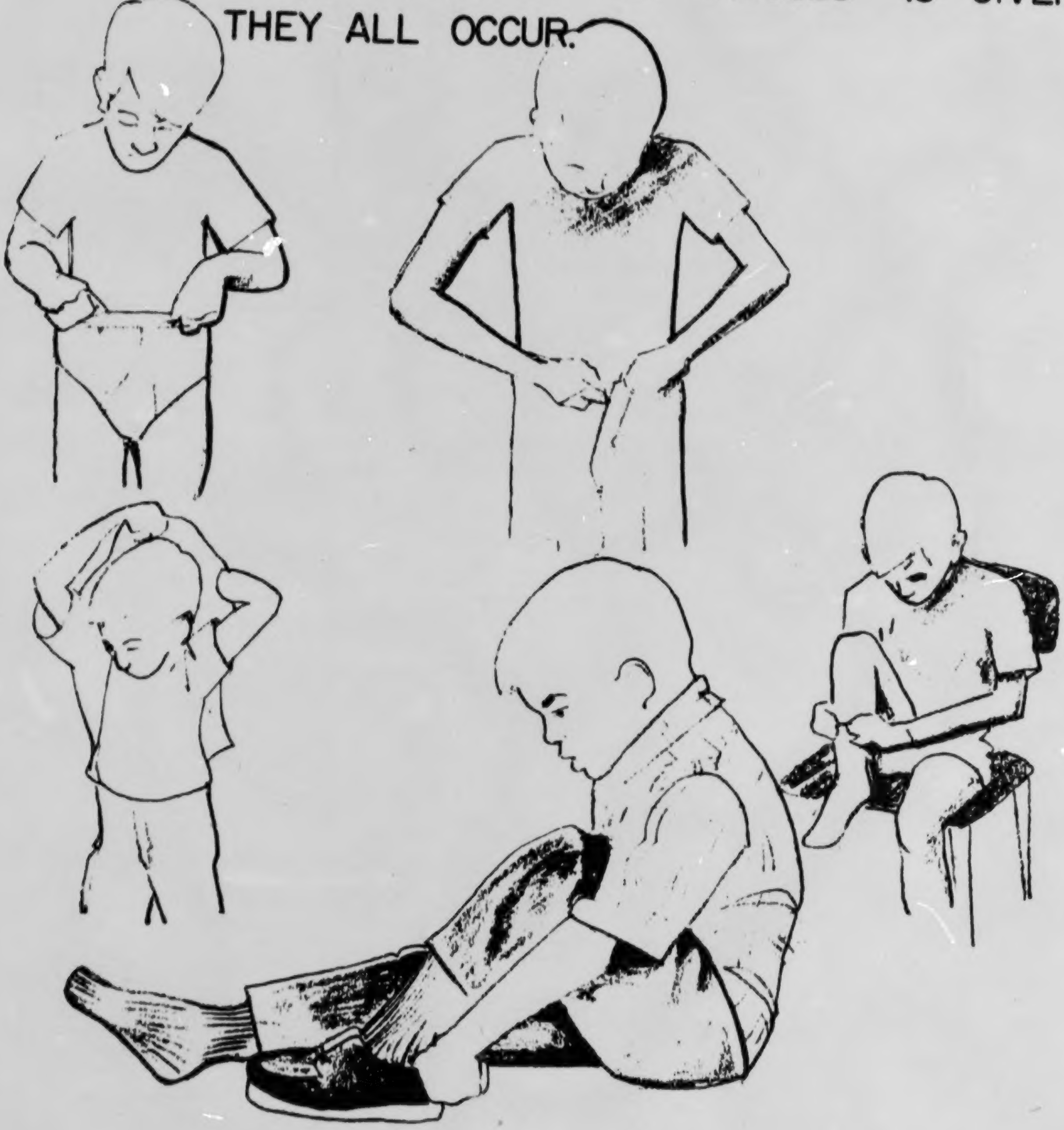


Figure 10. Chaining is used to "tie" behavioral components together.

1. Another example of chaining using dressing and consisting of five distinct behavioral parts is as follows:

   a. putting on underwear
   b. putting on pants or slacks
   c. putting on a shirt or blouse
   d. putting on socks
   e. putting on shoes

2. Each of these five components of dressing behavior are first conditioned singly using the successive approximation procedure we discussed earlier. Then they are conditioned together, one at a time, using the following chaining procedure.

   i. The worker begins by having the client put on his underwear, pants, shirt, and socks. Then he would say to the child, "Get dressed", and have him put on his shoes. The worker would reinforce the child using a bridging signal such as "good boy" accompanied by a tangible reinforcer and perhaps a pat on the back or a hug.
   ii. Then the worker would have the client put on his underwear, pants, and shirt. He would say, "Get dressed", having him put on his socks. Verbal reinforcement plus a tangible reinforcer such as Koolade or candy and perhaps a social reinforcement such as a pat on the back or hug.
   iii. Next, the worker would have the client put on his underwear and pants. He would say, "Get Dressed" have him put on his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
   iv. Then, the worker would have the client put on his underwear. He would say, "Get Dressed," have him put on his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks for verbal reinforcement, and his shoes for verbal reinforcement, candy or Koolade, a pat on the back or a hug.
   v. Finally, the worker would tell the nude child, "Get Dressed", have him put on his underpants for verbal reinforcement, his pants for verbal reinforcement, his shirt for verbal reinforcement, his socks

for verbal reinforcement, and his shoes for verbal reinforcement, candy or Kool-ade, a pat on the back or a hug.

3. This chaining or "tying together" process has to be conducted very slowly over many training sessions in order to successfully chain the behaviors in question.

4. Once all the behavioral components have been successfully chained, fading procedures such as these we discussed can be begun. The worker begins to drop out the verbal reinforcement after underwear, then pants, then shirt, then socks, and so on until the only reinforcement left is the one administered at the end of the desired behavior sequence. This must be done slowly. Otherwise, the chained behavior you worked so hard to establish may not persist.

Modeling

In behavior modification therapy, considerable use is made of modeling. In this procedure, the model demonstrates the behavior to the person who is to learn it. The client then practices the new behavior, being guided through it step-by-step by the model.

Five guidelines have been identified as being essential for effective modeling. They are:

a. Model the desired behavior many times, using different models.
b. Shape the behavior gradually.
c. Guide or coach the client through each step.
d. While guiding the person through a difficult step, use physical contact such as resting your hand on the person's arm.
e. Provide reinforcement at each step during the modeling process.

List the five guidelines suggested for effective modeling:

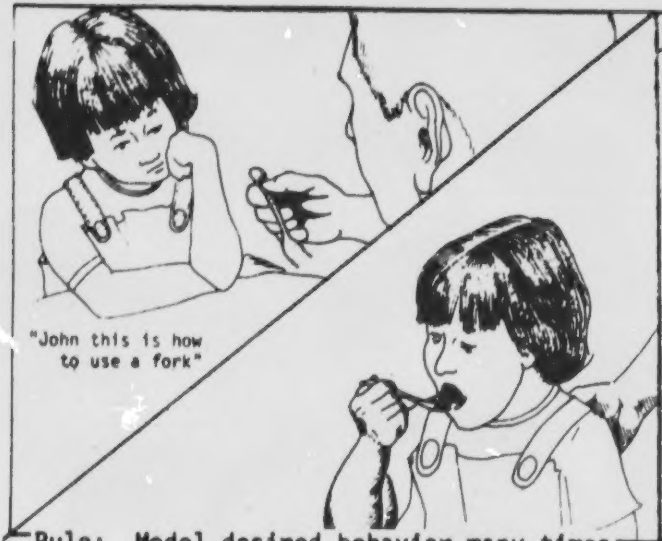
1. ____
2. ____
3. ____
4. ____
5. ____

SOLUTION:

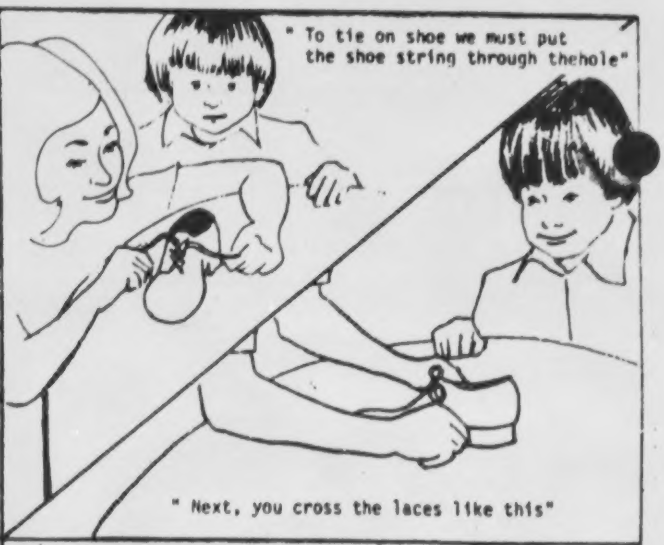
The guidelines for effective modeling are:

1. Have different models go through the desired behavior many times.
2. Gradually attempt to shape the desired behavior.
3. Guide or coach the client through each step.
4. Use physical contact with the client to guide him through the steps.
5. Provide reinforcement at each step during the modeling process.

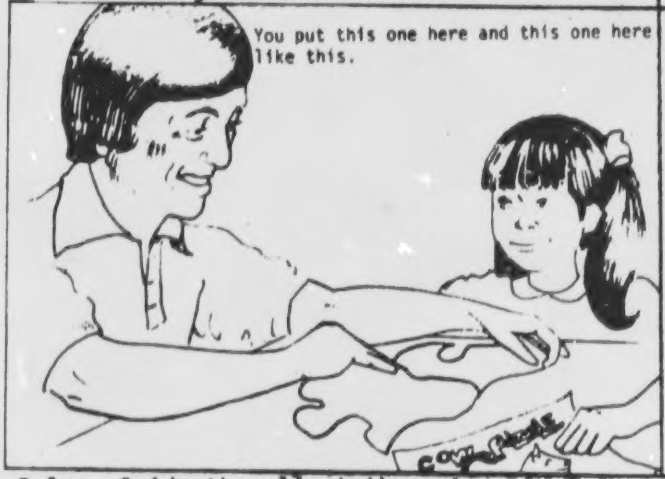
Figure 10 contains illustrations of how the above rules may be applied.


"John this is how
to use a fork"

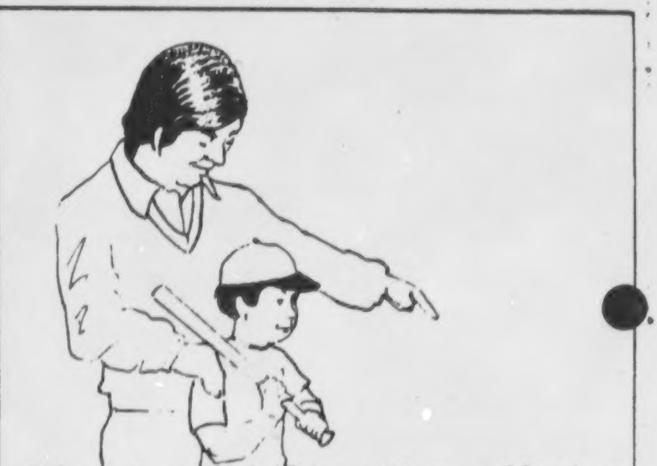
Rule: Model desired behavior many times using different models.


" To tie on shoe we must put
the shoe string through thehole"
" Next, you cross the laces like this"

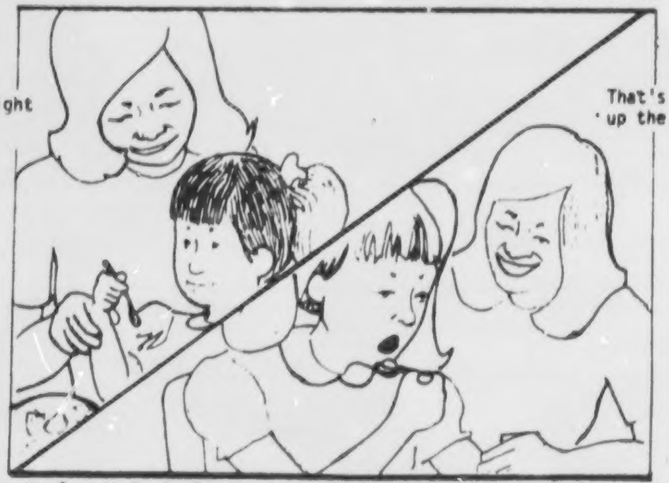
Rule: Shape desired behavior gradually.


You put this one here and this one here
like this.

Rule: Guide the client through each step.



Rule: Use physical contact to guide the client through a difficult step.


Good girl, you hold the spoon tight
in your hands."
That's right use the spoon to scoop
up the strawberries."

Rule: Reinforce at each step during the modeling process.

Figure 10. Rules for Modeling

Student Quiz 100-5A
Paraprofessional Level
Code 76-12

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

Specific Techniques and Procedures in Behavior Modification

Multiple Choice Items

1. Which can be used to strengthen behavior?

   a. positive reinforcement
   b. ignoring the behavior
   c. prompting
   d. none of the above

2. Which of the following constitute the two basic schedules of reinforcement used in behavior modification:

   a. continuous and external
   b. intermittent and intrinsic
   c. continuous and variable
   d. continuous and intermittent

3. A client's behavior will be strengthened if:

   a. it is ignored
   b. it is reinforced
   c. it is adequately identified
   d. none of these

4. The positive reinforcement principle tells us that a client's behavior will strengthen if:

   a. it is reinforced
   b. it is followed by positive consequences
   c. it is rewarded continuously
   d. all of the above

5. Which of the following interventions can you use to weaken a behavior?

   a. extinction
   b. chaining
   c. prompting
   d. all of the above

6. Which of the following is an example of time out?

   a. removing the client from a reinforcing environment and isolating him in a neutral area
   b. removing a positive reinforcer from the client's possession
   c. placing a patient under physical restraint
   d. a and b

7. In using response cost or restitution as a BTM technique you should:

   a. make sure the response cost or restitution is related to the behavior
   b. make sure response cost on restitution comes immediately after the behavior
   c. make sure your attitude is not punitive
   d. all of the above

8. "Chaining" is used to:

   a. stop bad behavior
   b. teach behavior which usually takes place in fixed order
   c. to take away the client's need for reinforcers
   d. none of the above

True/False Items

9. A client's behavior will be strengthened if the behavior is followed by positive reinforcement.

_____True _____False

10. By extinction we mean the client has received too much reinforcement.

_____True _____False

11. Just because you intend for something to act as punishment does not mean it will.

_____True _____False

12. If used, punishment must be given immediately following a behavior to be effective.

_____True _____False

13. Over correction is the process in which you weaken a behavior by reinforcing another behavior.

_____True _____False

14. In restitution, a client is required to restore the situation to a state vastly improved from that which existed prior to the disruption he caused.

_____True _____False

15. In shaping, we help the client acquire new skills rather than just helping to strengthen new behaviors that he already has in his behavioral repertoire.

____True ____False

16. A distinguishing feature of chaining is that the target behavior is taught backwards. That is, the last step of the task is taught first.

____True ____False

17. In teaching self-help skills such as dressing, chaining would be of little value.

____True ____False

18. In the shaping technique, the desired behavior is broken down into small pieces or steps, with each successive step requiring only a little more than the previous one.

____True ____False

19. Only food can be used as a reinforcer.

____True ____False

20. If something is a reinforcer for one person, it is a reinforcer for everyone else.

____True ____False

21. A reinforcer for a behavior is given before the behavior occurs.

____True ____False

Completion Items

22. John started cleaning his room. When doing this, it resulted in his getting to watch T.V. 30 minutes extra. Getting to watch T.V. 30 minutes extra is an example of ____________________.

23. Ann was given an M & M every time she combed her hair. The chances that she would comb her hair increased. The M & M is an example of ______________.

24. For some people, being scolded could have a reinforcing effect rather than the intended ____________ effect.

25. One person's punishment can be a ___________ for another person.

26. Reinforcement involves an _____________ in chances that a behavior will occur again.

27. Having your pay check docked for being late to work is a form of _________.

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28. Extinction is stopping the __________ that has been following a behavior.

29. The result of extinction is that the behavior occurs __________ often, eventually stopping completely.

30. To make reinforcement contingent on a specific behavior, we make sure that the only time __________ occurs is when that specific behavior occurs.

31. Satiation can be a result either of a high reinforcer __________________ or a large reinforcer ______________________ or both.

Solution to Student Quiz 100-5A
Paraprofessional Level
Code 76-12

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

Specific Techniques and Procedures in Behavior Modification

1. a
2. d
3. b
4. d
5. a
6. a
7. d
8. b
9. True
10. False
11. True
12. True
13. False
14. True
15. True
16. True
17. False
18. True
19. False
20. True
21. False

Completion Items

22. reinforcement, or reward
23. reinforcement, reward
24. negative
25. reward, reinforcement
26. increase
27. punishment
28. reward, reinforcement
29. less
30. reinforcement, reward
31. rate
    quantity

Lesson Plan 100-6
Code 76-7

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

THE TOKEN ECONOMY

LESSON PRESENTED TO: TDMHMR Personnel Participating in Behavior Modification Programs

PLACE: Classroom

REFERENCES: Allyon, T. and Azrin, N. The Token Economy: A Motivational System For Therapy and Rehabilitation, New York: Appleton - Century - Crafts, 1968
Kazdin, D. E., and Bootzin, R. R. The Token economy: An evaluative review. Journal Of Applied Behavior Analysis, 1972, 5, 343-72.
Shean, G. D. and Zeidberg, Z. Token reinforcement therapy: A comparison of matched groups. Journal of Behavior Therapy and Experimental Psychiatry, 1967, 72, 496-503.
Walker, H. M. and Buckley, Token Reinforcement Techniques, Eugene: E. B. Press, 1974.

STUDY ASSIGNMENT: Read Student Handout 100-6 "The Token Economy" and Special Materials

INSTRUCTIONAL MATERIALS AND EQUIPMENT: Chalkboard, chalk, eraser, 35mm projector and transparencies numbered 100-6-0 through 100-6-24.

TYPE OF INSTRUCTION: Lecture and Group Discussion.

I. INTRODUCTION

A. Opening Statement

Note: Display Transparency 100-6-0.

In more and more institutional settings, a token economy system is becoming a permanent feature of the treatment program. A token economy is a system which is designed to simulate "economic" conditions that occur within the client's natural environment, outside the institutional setting. To amplify, the client has an opportunity to "earn" tokens that can be exchanged for valued goods and services. In such systems, clients can usually earn tokens by producing behavior that helps rather than hinders their progress in treatment. The tokens are awarded contingently; that is, they are given only when the behavior being strengthened is displayed and withheld whenever the behavior is not satisfactory. Patients are then charged tokens for items they value such as snacks, recreational opportunities, cosmetics and the like.

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B. Instructional Objectives

Upon completion of this instructional unit the student will be able to:

1. Operationally define the concept of a token economy, specifying the basic components which make up such a system.

2. List the principal goals of a token economy within an institutional setting.

3. Specify five advantages of a token economy system in bringing about desired behavioral change.

4. Demonstrate the ability to specify reinforceable units of behavior, given a description of various behavioral episodes.

5. Demonstrate the ability to identify and select backup reinforcers appropriate for use in a token economy system.

6. Demonstrate the ability to appropriately relate backup reinforcements to behavior (i.e., determine prices and wages) given a situation wherein available backups and behaviors to be dealt with are enumerated.

7. Describe the procedure for selecting, using and exchanging tokens in a token economy system.

8. Specify the advantages of using a token card and hole puncher from a list of possible advantages and disadvantages.

9. Demonstrate the ability to distribute tokens on an earning card, withdraw tokens from a spending card, and distribute tokens on an individual planning card.

10. Select from a list of suggested revisions of an individual treatment plan, the one that most adequately incorporates the weekly experience data provided on the plan.

II. PRESENTATION

A. Basic Components of The Token Economy

1. The General Concept

Note: Display Transparency 100-6-1

To understand the basic concept behind a token economy system, it is helpful to think about money and its use in the Nation's economy. Money is a reinforcer in our particular society, just as it is in most of the world. It is given to us following specific behaviors, which we call work. For example, a car dealer cannot eat, drink, or wear the money you will hand over. The most important consideration here is what the

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dealer can do with the money. He can buy groceries for his family with it, obtain new clothes or take a trip with it. Money becomes reinforcing to us because it is associated with the many good things we can buy with it.

2. Importance of Money

Note: Display Transparency 100-6-2

Money is very important to most of us because it functions to bridge the gap between performance of work behaviors and acquisition of important reinforcers. It also has the advantage of being able to be given immediately following desired behavior and can be exchanged for a variety of things. From our earlier discussions, we know that immediacy of reinforcement is very important for learning. The mere fact that money can be exchanged for many things means that most people are likely to find money reinforcing, because somewhere there is apt to be something they want that can be acquired if they have money to pay for it.

3. What Are Tokens?

A token reinforcer is an object which can be exchanged for items or activities of value. Some common token reinforcers in our society are money, trading stamps, bus tokens, gold stars, and tickets. The tokens in a token economy share the advantages of money in the world economy. Tokens can be given immediately, when necessary, to support learning; they can be exchanged for a variety of reinforcers, and they serve as a convenient way to bridge the gap between display of socially valued behaviors and desired reinforcers that may not be readily available. The range of possible selections is suggested by the slide projected on the screen.

Note: Display Transparency 100-6-3

4. Advantages of Tokens

Note: Display Transparency 100-6-4

Many times a reinforcer cannot be given immediately after an improvement in behavior has been displayed. However, to eliminate the delay between the occurrence of a desirable behavior and a valued reinforcer, (such as a weekend pass), tokens can be given as the immediate reinforcers and then exchanged later for the weekend pass. Fortunately, tokens function effectively as reinforcers as soon as the clients learn that they can be exchanged for activities and privileges which are valued by them. Tokens are also valuable because they focus the client's attention on which behaviors he or she should be working on and thus facilitate behavioral improvement. By using tokens, the staff can help strengthen desirable behavior in clients by awarding tokens as soon as an improvement is noticed, thus employing the powerful immediacy component of the reinforcement mechanism.

5. What does the term token economy mean?

Note: Display Transparency 100-7-5

The token economy is nothing more than a set of procedures for systematically using tokens to reinforce (strengthen or increase) desired behavior. The basic components of a workable token economy include the following:

1. Availability of tokens which can be easily and quickly given.

2. Availability of a varied set of "backup" reinforcers suited to preferences of the individuals in the program (for which the tokens will be exchanged).

3. Rules specifying which specific behaviors earn precisely how many tokens.

4. Rules specifying how tokens can be spent within the token economy.

5. Procedures for getting the program started (e.g., make the tokens themselves "valuable" by pairing them with backup reinforcers).

6. Procedures for optimizing reinforcement as improvement occurs so as to foster maintenance of gains displayed by the client.

7. Procedures for moving the client off the token system while maintaining the behavioral gains.

We will be taking a closer look at these considerations later on during the period.

B. Procedures For Implementing a Token Economy

1. Overview

In a token economy, the basic procedural unit consists of a client's behavior, which is followed by a token reinforcer, which is then exchanged for a "backup" reinforcer. If a token economy is to be successful, rules must be established to specify how the tokens can be earned and what they can be exchanged for.

2. Identification of Possible Target Behaviors

Note: Display Transparency 100-6-7

In deciding on the target behaviors which are to be modified by the general token plan, it is a good idea to ask for input from the entire staff. Two groups of behaviors should be given careful consideration. The first catagory includes behaviors which are to be strengthened, such as self-care, social skills, and work skills. The second category includes behaviors which are to be weakened, such as bizarre behaviors, assaultive behaviors, and self mutilation. The slide you see on the screen contains some common examples of behaviors which can be strengthened or weakened within a token economy.

In developing such a list of target behaviors, it is very helpful to have the entire staff carefully observe and list the various client's undesirable behaviors. Of course, they should also observe and list specific behaviors they would like to see increased or strengthened.

3. Selection of Target Behaviors

Obviously, the staff cannot hope to change all of the behaviors they identify in the preceding step. For this reason, you need to set priorities, giving primary consideration to problems which are common to many clients and to changes which are most likely to contribute to an immediate improvement in the client's level of functioning. To illustrate, appropriate grooming behavior must be developed before an individual can be reinforced for going on job interviews; low levels of social interaction need to be increased before the staff becomes concerned with a client's inability to speak in front of small groups; and a client's assumption of some degree of responsibility for maintenance of his living area must be developed prior to sending him to a part-time job in the community.

4. Detailed Specification of Target Behaviors

Once the staff has selected the target behaviors, the behaviors must be further specified regarding the steps required for completion of the behavior in question. These specifications are made available to the staff and patients in the form of a token economy manual, which we will discuss later.

Note: Display Transparency 100-6-8-9 and 10

The specification shown on the screen is typical of the kind you will need to develop for your program.

Some Hints for Specifying Target Behavior

1. Specify the quality as well as the quantity of behavior required.

2. Make the "chunks" of behavior which will earn reinforcers gradually larger.

3. Set daily (and later weekly) individualized target behavior requirements.

4. Set client goals in such a manner as to equalize the opportunity to earn tokens. This means the worker should adjust the requirements to the client and make it possible to reinforce small steps of improvement.

5. Keep the client informed about the goals for them.

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5. Assignment of Token Values to Specific Target Behaviors

Keep in mind that the assignment of token values to behaviors must be coordinated with the assignment of prices to specific reinforcers. This is because to keep a token economy in balance, income has to equal expenditures. A reasonable way to start involves assigning the lowest values possible to the set of specified target behaviors (taking care to give more tokens for behaviors which are considered to be more important or to require more work). For example, grooming, exercise, and social activities would probably be given more weight than getting up on time or going to bed on time. As you saw from the slide dealing with the plan, each resident could earn 20 tokens a day, plus a bonus token. Of course, you have to be sure that reinforcers are always selected and priced so that the clients will want to spend close to 20 tokens a day. In this way, the tokens will maintain their value in encouraging the client to demonstrate the desired behavior.

6. Identification and Specification of Reinforcers

Note: Display Transparency 100-6-11 and 12

In setting up a token economy, you should identify as many reinforcers as possible since what is reinforcing for one person may not be to another. Additionally, the motivation to earn tokens is directly proportional to the attractiveness of the items the client can purchase with the earned tokens. The more tokens that a client desires so as to buy privileges, the more tokens he will try to earn through changing his behavior in the desired direction. The slide shown on the screen illustrates the kind of detail that is necessary in specifying reinforcers. Note that it is also important to specify when they are available and for how long, so as to avoid any misunderstanding.

7. Determining Prices

As we said earlier, you must coordinate prices (cost of the reinforcer) with wages (tokens earned) so that most of the tokens a client earns in one week will be spent in that week. This will require that you set the prices so that most of the privileges within the token economy can be attained by the client without undue difficulty. In the system we have shown on the screen, a client can earn 20 tokens a day or 140 a week. Basic privileges (TV, ground privileges, and snacks) would cost 10 tokens a day. Remember, in assigning prices to privileges, try to vary the prices according to the desirability of the activity. Thus, a weekend pass that can be purchased (rather than awarded) should cost at least 20 times an hour of general recreation. It is also helpful to be flexible, to hang loose and wait to see which activities are in greatest demand. When demand is high, increase the price. When demand is low, decrease the price. This is what happens in the natural market place.

8. Selecting Tokens

Note: Display Transparency 100-6-13

There are many things that you can use as tokens. A few of the possibilities include:

- Marks on a card
- Numbers on a card
- Paper stars
- Poker chips
- Pennies
- A counter with a light flash
- Tickets
- Punches on a card
- Plastic chips

In selecting tokens, an important criterion should be the ease and convenience of use by the staff. With a few clients in a program, plastic chips may do the job. However, with twenty-five clients, the process of passing out plastic tokens might be cumbersome. Conceivably, special punches or marks on a card kept by the client might be more convenient. A "board" and counter system such as shown on the screen might be more convenient if you can "afford" one.

9. Making Adjustment to the System

As you can appreciate, a token economy is not a fixed system. It is an evolving system which must be kept in balance according to the available money (unspent tokens), "customer" preferences (demand), and stage of client progress. If a client accumulates too many unspent tokens, there is no need for him to work to earn more tokens. When you see this kind of hoarding happening with a client or two, start looking for reinforcers for which the clients will be willing to spend their hoarded tokens. If this should happen with a large group of clients, you might have to consider confiscating all tokens unspent by Friday afternoon and starting over with lower wages or higher prices the next week.

You may need to make another kind of adjustment, based on records of token expenditures. That is, if some items are really "big sellers" and in demand, increase the prices of these items on your next "product" list. Eliminate those items not purchased by the clients or reduce their price. By reacting to the client's preferences in selecting reinforcers and pricing them, your system will remain more viable.

A third program adjustment concerns the ratio of work to tokens. In the early stages of a program, you should make it fairly easy for the client to earn tokens for small amounts of work. However, as skills develop and work habits improve, the amount of work required should be gradually increased so that the client'sare working longer for fewer tokens.

10. Charging for Inappropriate Behavior

Note: Display Transparency 100-6-14

Many inapproriate behaviors can be weakened by requiring the clients in the token economy to pay a fine, or a charge, each time the inappropriate behavior occurs. Shown on the screen is the specification of behavior for which charges have been made in some token economies.

C. Making Tokens Maximally Powerful

Note: Display Transparency 100-6-15

1. Number of exchange periods allowed.

To make tokens maximally powerful, allow for frequent exchange periods during the early days of your program's operation. Then gradually reduce the number of exchange periods, if this is indicated. Keep these points in mind:

(1) Always praise first. Before you give out tokens, praise the client first, telling him specifically how he earned the tokens. This procedure will increase the value of the praise and make it easier to later fade out tokens. By using behavior-specific praise, you will also be giving the client maximum information about your expectations for him.

(2) Never haggle. Sometimes a client will approach you and say, "If I do this or that, will I earn x number of points?" Clients may also try to bargain over the cost of various items. The best response in these circumstances is to give no response. Ignore such haggling. You must maintain control of the price of items and the amount of work required to earn a token at all times.

(3) Always avoid talking about tokens. Do not mention tokens except to give wage and price information. Tell the client what he did to earn points or tokens and give them, but do not mention the tokens themselves. This is because talking about earning tokens or points can deteriorate into coaxing, bribing, or threatening those clients who are not working up to expectations. Tokens are given for meeting a specific performance goal set for the individual client and should not be an occasion for giving attention to those who are not cooperating.

(4) Require a workcheck and corrections. Before tokens are given for an assignment, check each task for accuracy and insist that all mistakes be corrected. Provide any additional instruction that the client needs. This will help in the expectation of accurate completion of each assignment.

2. Exchanging Tokens

Note: Display Transparency 100-6-16

It is always a good idea to carry out token exchanges with some ceremony. The exchange provides an opportunity to teach the clients to support each other's progress by applauding for a good performance and otherwise showing mutual appreciation. It is also a chance for the worker to comment on each client's progress before the whole group.

With a backup reinforcement system that uses both activities and purchased reinforcers, it may be convenient to sell tickets for activities during the exchange period. Such tickets can then be turned in later at the appropriate time when the activity is being carried on. This way, it is not necessary to have all activity backup rewards going on at the same time. Such an approach serves to give each client something tangible at the conclusion of the exchange period to show for his work, even though he did not choose candy or a toy.

When the exchange period occurs during the work day, as could well happen when you are getting a system started, it can be a problem getting the clients back to work. Here, the key is to announce that the exchange period is over and then reinforce with praise and tokens all clients who return to work quickly. Ignore the stragglers. Before too long, the clients will get the idea that it pays to get back to work promptly.

D. The Need To Individualize The Token Economy Approach

Up to this point, we have dealt mainly with developing a general token economy plan. We need to keep in mind, however, it may be necessary to individualize our approach - to specify target behaviors for an individual client.

1. Steps Involved In Developing an Individual Token Plan.

a. Specify the behaviors that need to be changed.

b. Identify the reinforcers that are available for the individual client.

c. Assign token values to the behaviors and reinforcers.

2. Possible Contingency Arrangement in an Individualized Token Plan.

Four basic contingency arrangements are possible in an individualized token plan:

a. Giving tokens for increases in desired behavior (grooming, social interaction).

b. Giving tokens for decreases in undesired behavior (harming self, talking to self).

c. Taking away tokens for increases in undesired behavior.

d. Taking away tokens for decreases in desired behavior.

3. Other considerations.

Following are two important aspects of an individual plan. First, to help change a resistant individual behavior, an important reinforcer (such as a weekend pass) must be isolated and made available only by improvement in the targeted behavior. Second, individual plans must be reviewed periodically to see if they are working. If they are not working, then they must be changed. Obviously, when the problem behavior targeted by the individual plan is gone, the plan can be shifted to focus on other behaviors.

E. Operating A Token Economy System

1. General

As we indicated earlier, the tokens used in a token economy can take a variety of forms, including poker chips, paper money, coins, and marks on paper. Important factors to consider in choosing the form of tokens are: (1) ease in insuring a readily available supply for the staff, (2) control of the possibilities of theft and extortion, and (3) the ease by which transaction records can be kept. Given such factors, many facilities have found that an individual token card carried by the client, which is punched by a hole punch carried by the staff, is convenient. With properly designed cards, record keeping can be made an integral part of the token award and exchange process.

2. A Possible Token Economy System

a. Some facilities have found that the system we are about to discuss is a simple, effective way to meet record keeping needs. In the program we will discuss, at the beginning of each week, each client is given three token cards: an Earning Card, a Spending Card, and an Individual Plan Card. The staff members carry hole punchers which they use to award tokens by punching the Earning Card. Each staff member carries a different shape hole puncher, so that it is possible to determine precisely who awarded the tokens. The cards are over printed with the target behaviors, making it possible to identify day by day what the client did to earn the tokens.

Note: Display Transparency 100-6-18

b. This slide shows an Earning Card with punches on it. You can see that Mark Brown earned five tokens during the week for getting up on time. This token earning activity is indicated by the five holes which are punched into the card on Monday, Tuesday, Wednesday, Thursday and Friday next to the Up on Time category. Further down on the card, you can see that Mark also has earned twelve tokens for Planned Social Behavior.

Note: Display Transparency 100-6-19 and -20

c. This slide and the next one shows the Spending Card. The privileges which can be purchased by the client with tokens are listed in the middle of the card. The days of the week are specified on the edges of the card. Each privilege shown can be purchased on a daily basis. As you can see, spending activity is indicated by punching a

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hole on the time of day for some activities and just for the day of the week on others. The Spending Card permits the staff to keep track of all spending activity during the week. For example, as the second slide shows, Mark Brown spent an hour in bed during the day on Monday, Tuesday, and Wednesday at 3:00 P.M. each day.

All tokens that are spent must be deducted from the clients earnings as reflected on the earlier card we discussed. This is done by circling all of the tokens that are spent. For example, as you see on the slide, if two tokens are spent on Monday at 3:00 P.M. for Bed During Day, the staff member would punch one hole on the Spending Card next to Bed During Day at 3:00 P.M. and then circle two tokens on Card 1 (the Earning Card) to indicate that they have been spent. The circled tokens cannot be used again by the client to purchase other privileges.

Note: Display Transparency 100-6-21

d. The third token card we will discuss is used as the client's individual plan. As you can see from the slide, this card is basically an earning card since client's are reinforced with tokens on this card for carrying out their individual behavior plan. Tokens are punched on this card in the same way as they are punched on the other cards. The slide shows Mark Brown's individual earning card punched with tokens earned for engaging in the behaviors specified on the card. In this case, Mark earned 6 tokens for initiating a conversation with staff members, 2 tokens on Monday, 2 tokens on Wednesday, and 2 tokens on Friday. He also earned 4 tokens for sitting with other clients and 5 more tokens for not pacing.

Note: Display Transparency 100-6-22

e. Data gathered from operation of the token system discussed above can be fed to a computer to summarize the information on a periodic basis. For example, each client could turn in his token cards to the staff at the end of the week. The staff members would then transfer the information (tokens earned, spent, and categories of spending and earnings) to a coding sheet which, in turn, could be sent to a computer facility, where the information would be punched on cards and submitted for computer processing. The summarized information could then be returned to the staff within a few working days for use in making decisions about the client's treatment plan for the following week. There could be a separate summary sheet printed out for each resident and a separate print-out which summarized the entire token activity program. Of course, this is the ideal and would be available only to facilities which have computer support. You can, however, still operate an effective token economy without a computer!

f. A very important factor in a client's individual treatment plan concerns the criterion of success for any particular targeted behavior. As we indicated earlier, each target behavior has a criterion level at which it is no longer considered a problem. The weekly data summary discussed above allows the staff to use the client's performance on a number of specific behaviors in making up the treatment plan for the following week. If the behavior on the individual plan has reached the criterion level, then the treatment plan can be revised to focus on other problem behaviors. This arrangement helps keep the behavior modification program on target and responsive.

F. Maintaining Behavioral Gains

Note: Display Transparency 100-6-23

Ultimately, the clients participating in a token economy will have to be terminated and returned to a more natural environment where praise, success, and activities are used to maintain motivation. You can implement a number of procedures during a token program which will help facilitate maintenance of gains when the client's participation in the program ends. These include:

Note: Display Transparency 100-6-24

(1) Fading. If the token system is gradually faded out after desired behavioral gains have been achieved, the desirable behavior is more likely to persist. The number of points given each day can be gradually reduced to zero. A reasonable rule to follow is to reduce the tokens given out by 5% each day. Also, the frequency of exchanges for backup reinforcers can be reduced and the kinds of backup reinforcers available can be gradually shifted so as to include primarily activities which are readily available, rather than "store" items.

(2) Intermittent reinforcement. We know from our earlier discussions that behavior which is intermittently reinforced is more resistant to extinction. By using the procedures described earlier to slowly shift to increasingly longer intermittent schedules, we can increase the likelihood of the desired behavior maintenance.

(3) Transfer of reinforcement controls. Such reinforcers as praise, attention, task completion and success are apt to become more effective if, in the token economy, they are systematically paired, with the giving of tokens, and slowly allowed to stand more and more on their own.

(4) Self-recording. If the client is gradually trained to keep accurate records of his own progress, this self-monitoring can provide feedback information which in turn can help reinforce progress.

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G. Use of a Limited Token System

Obviously, it is possible to use the general procedures we have been discussing on a more limited basis. For example, a token program can be designed for a single client or a small group. A special resource person working with several groups for an hour or so a day might use a token system to increase the motivation of clients who may be quite tired of a subject matter repeatedly associated with past failure. The general procedures one would follow are not much different from those we discussed earlier for use when a whole group is involved. Following a few additional ideas which may be helpful in such cases:

1. When just a few clients in a group are involved in a special program, there is some danger that other clients might act up just to get into the special program (with its special rewards). Groupmates can be made to become "involved" following this procedure: have the "problem" group member earn a reinforcer for the whole group (a treat for everyone, a movie, a party, special recess, etc.). In this way, the groupmates will be motivated to help make the program work. Generally, everyone enjoys the rewards derived from cooperative effort.

2. When a staff member works with a group for only one period a day, it is sometimes helpful to formalize the reinforcement system with a written contract, signed by both client and teacher. The contract should specify target behaviors (goals for the week, for example), how points can be earned, and how the points can be spent. Contracts can be renegotiated weekly if it is difficult to specify targets too far in advance of current progress.

NOTE: At this time administer Student Quiz 100-7. Use quiz results to clear up any misconceptions the students may have and to identify areas where re-teaching may be indicated.

III. SUMMARY

During the period just ending, we discussed the concepts involved in establishing a token economy. We noted that in a token economy, we use tokens much like money is used in our natural economy. That is, they are given following desirable behavior and can be spent for various privileges and store items. We also noted that tokens are valuable in an institutional setting for (1) bridging the time gap between display of the improved behavior and presentation of the reinforcers, (2) in serving as reminders to the client of the behaviors he should be working to improve, and (3) in allowing for a variety of back-up reinforcers. The procedures for setting up a general token economy that we discussed involved:

1. Identification of possible target behaviors.
2. Selection of actual target behaviors.
3. Detailed specification of target behaviors.
4. Assignment of specific token values to particular target behaviors.

5. Identification and specification of reinforcers to be used.
6. Determining prices for the reinforcers.
7. Charging for inappropriate behavior displayed.
8. Producing a token economy manual for use by clients and staff.

We also discussed a number of procedures for the operation of a token economy once it is set up. These included:

1. Taking steps to make the tokens valuable at the start by pairing them with valued backup reinforcers.
2. Using behavior-specific praise before giving tokens to the client.
3. Avoiding haggling or talking about tokens with the clients.
4. Requiring a workcheck and correction of errors before giving tokens to a client for task performance.
5. Making the exchange times important group events for the clients.

In our discussion we came to see how the use of cards and punches in a token system has many advantages. That is, the tokens are readily available, theft and extortion can be controlled, and record keeping is greatly facilitated. In the system we discussed three cards were used. The Earning Card was used to specify how tokens can be earned, with the punches on the card indicating exactly what is earned each day. The Spending Card is used to specify how tokens can be spent, with the punches on this card indicating the spending choices and when they occur. The Individual Plan Card is used to specify how certain reinforcers can be earned by the client meeting individually specified objectives. We saw that the use of a computer in analyzing and reporting on the data in a token system can greatly facilitate revision of treatment plans and document patient progress, making treatment more responsive and timely.

Programmed Student Handout 100-6
Code 76-8

Texas Department of Mental Health Mental Retardation

The Token Economy

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

In many institutional settings, a token economy system is more and more becoming a permanent part of the treatment program. The term token economy refers to a system designed to simulate the "economic" conditions that occur outside of the institution.	
In institutions, token economies are designed to ___________ "economic" conditions outside of the institution.	simulate
In a token economy, the client can "earn" tokens which he can exchange for things he wants. In general, clients earn such tokens by producing desirable behavior.	
In a token economy, the client _______________ tokens which he can ______________ for things he wants.	earns exchange
The tokens are awarded contingently. This means that they are given only when desirable behavior is displayed and are withheld whenever the behavior displayed is not satisfactory. Clients are then charged tokens for things they value such as snacks, recreational opportunities, cosmetics and the like.	
Tokens are awarded ________________. That is, they are given only when ______________ behavior is displayed, being withheld when behavior is not satisfactory.	contingently desired
To understand the basic concept behind a token economy system, think about money and its use in your life. Money is a reinforcer for you and most others in our particular society. It is given to us following specific desirable behaviors, which we call work. Money becomes reinforcing to us because it is associated with the many good things we can exchange it for, such as food, shelter, entertainment or a new car. Similarly, tokens can serve the same functions in a token economy.	

A token reinforcer is an object which, like money, can be exchanged for items or activities of value. Some common token reinforcers are money, trading stamps, bus tokens, gold stars, and tickets. In a token economy, tokens share the same advantages as money in the nation's economy.

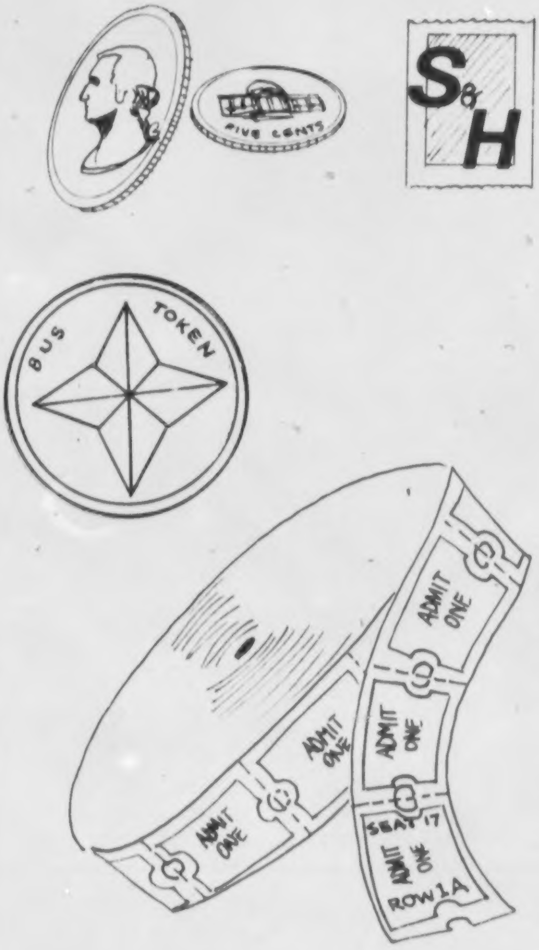

FIVE CENTS
S&H
BUS TOKEN
ADMIT ONE
ADMIT ONE
ADMIT ONE
ADMIT ONE
ADMIT ONE
SEAT 17
ADMIT ONE
ROW 1A

Figure 1. Common Token Reinforcers

By using tokens, the staff can help strengthen desirable behavior in clients by awarding tokens as soon as an improvement is noticed, thus employing the powerful immediacy component of the reinforcement mechanism which we discussed during an earlier class.	
Awarding tokens immediately upon noticing an improvement in behavior helps _________________ the desirable behavior.	**strengthen**
The token economy is nothing more than a set of procedures for systematically using tokens to reinforce (strengthen or increase) desired behavior.	
A token economy involves the __________ use of tokens to reinforce desired behavior.	**systematic**
The basic components of a token economy include the following:	
1. Availability of tokens which can be easily and quickly given.	
2. Availability of a varied set of "backup" reinforcers suited to perferences of the individuals in the program (for which the tokens will be exchanged).	
3. Rules specifying which specific behaviors earn precisely how many tokens.	
4. Rules specifying how tokens can be spent within the token economy.	
5. Procedures for getting the program started (e.g., make the tokens themselves "valuable" by pairing them with backup reinforcers).	
6. Procedures for optimizing reinforcement as improvement occurs so as to foster maintenance of gains displayed by the client.	
7. Procedures for moving the client off the token system while maintaining the behavioral gains.	

Complete the following review:

1. A token economy should have tokens available which can be ____________ and ____________ given.	easily, quickly
2. A token economy should have available ____________ reinforcers which are suited to the preferences of the clients.	backup
3. A token economy should specify which ____________ earn precisely how many tokens.	behaviors
4. A token economy should spell out how tokens can be ____________.	spent
5. In starting a token economy, you need to make the tokens themselves valuable by ____________ them with backup reinforcers.	pairing

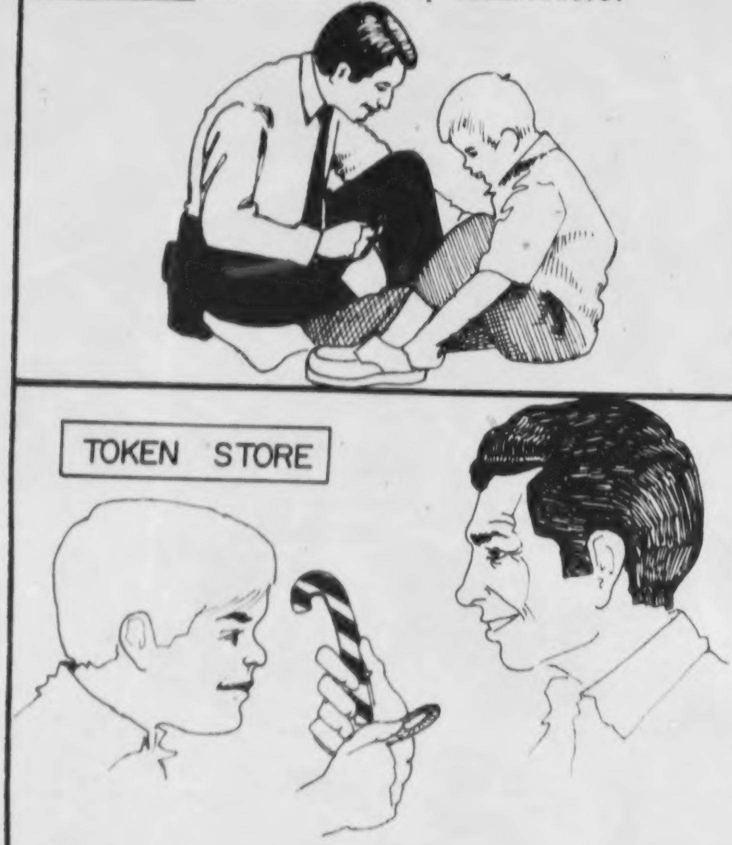
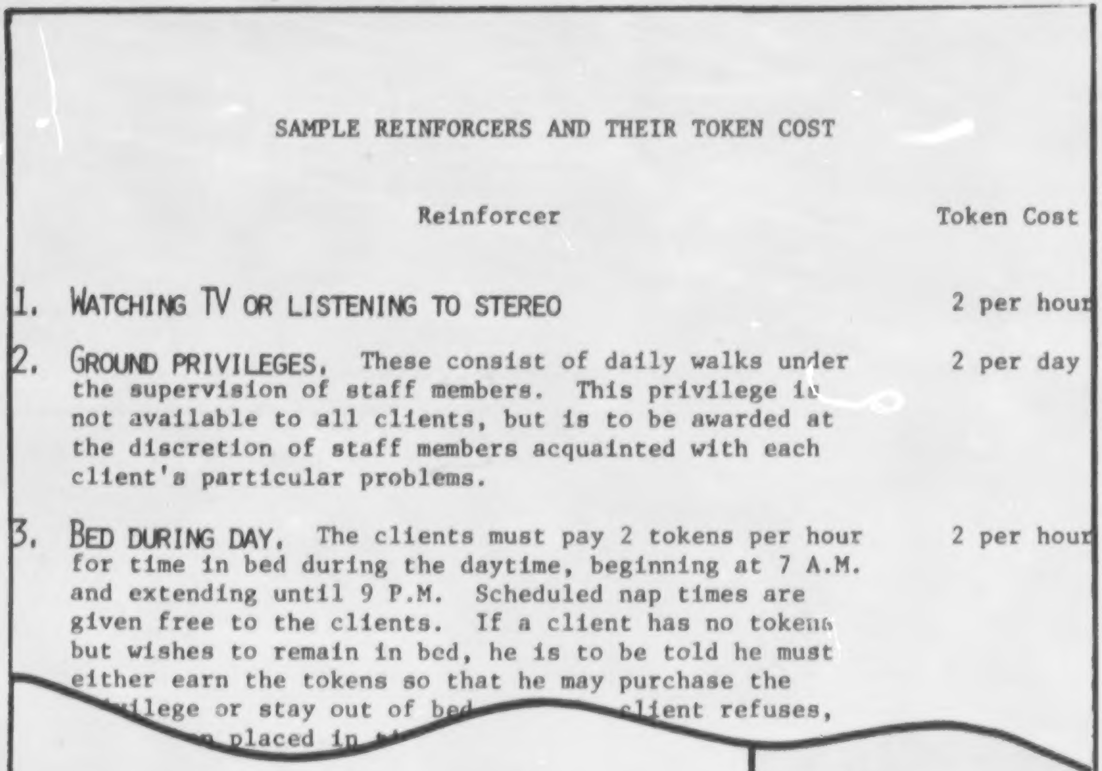


Figure 2. How The Token Economy Works

In a token economy, the basic procedural unit consists of a client's behavior, which is followed by a token reinforcer, which is then exchanged for a "backup" reinforcer, as shown in Figure 2. What is the basic procedural unit in a token economy? ______________________	the client's behavior
In deciding on the target behaviors which are to be modified by the general token plan, it is a good idea to ask for input from the entire staff. In this process, two groups of behaviors should be given careful consideration. The first category includes behaviors which are to be strengthened, such as self-care, social skills, and work skills. The second category includes behaviors which are to be weakened, such as bizarre or strange behaviors, assaultive behaviors, and self mutilation. (Self mutilation means to injure yourself on purpose). In deciding on what target behaviors you are going to modify in a token economy setting you consider these categories of behavior: I. ______________________________________ ____. II. _____________________________________ ____.	I. behaviors to be strengthened II. behaviors to be weakened
In developing a list of target behaviors, it is very helpful to have the entire staff carefully observe and list the client's undesirable behaviors. When you are developing your list of target behaviors, who should you have list a client's undesirable behavior? ______________ ______________________.	the entire staff
To illustrate the point made above, appropriate grooming behavior must be developed before an individual can be reinforced for going on job interviews; low levels of social interaction need to be increased before the staff becomes concerned with the client's assumption of skills necessary for a job interview.	

Once the staff has selected the target behaviors, the behaviors must be further specified regarding the steps required for completion of the behavior in question. These specifications are usually made available to the staff and patients in the form of a token economy manual. What would you expect to find in a token economy manual? ______________________________ ______________________________.	specification of target behaviors
Some Hints for Specifying Target Behavior 1. Specify the quality as well as the quantity of behavior required. 2. Make the "chunks" of behavior which will earn reinforcers gradually larger. 3. Set daily (and later weekly) individualized target behavior requirements. 4. Set client goals in such a manner as to equalize the opportunity to earn tokens. This means the worker should adjust the token economy requirements to the client and make it possible to reinforce small steps of improvement. 5. Always keep the client informed about the goals set for them. Complete the following review.	
1. In specifying target behavior, you specify the ______________ as well as the ______________ of behavior required.	1. quantity quality
2. In a token economy, you make the chunks of behavior which will ______________ reinforcers gradually ______________.	2. earn larger
3. Early in a token economy you set individual target behavior on a ______________ basis.	3. daily
4. You should adjust requirements to the client in a token economy, making it possible to reinforce ______________ steps of improvement.	4. small
5. It is important to keep the client informed concerning the ______________ set for him.	5. goals

Keep in mind that the assignment of token values to behaviors must be coordinated with the assignment of prices to specific reinforcers. This is because to keep a token economy in balance, income has to equal expenditures.	
To keep a token economy in balance, _________ has to equal ______________.	income expenditures
A good way to start assigning token values involves assigning the lowest values possible to the set of specified target behaviors (taking care to give more tokens for behaviors which are considered to be more important or to require more work). For example, grooming, exercise, and social activities would probably be given more weight than getting up on time or going to bed on time.	
In a token economy, you should give more tokens for behaviors which __________________ _____________ and ________________________.	are more important; require more work
In setting up a token economy, always identify as many reinforcers as possible since what is reinforcing for one person may not be so to another. Additionally, the motivation to earn tokens is directly related to the attractiveness of the items that the client can purchase with the earned tokens.	
What is reinforcing for one person can be considered to be reinforcing for another. _____True _____False	False



SAMPLE REINFORCERS AND THEIR TOKEN COST

Reinforcer	Token Cost
1. WATCHING TV OR LISTENING TO STEREO	2 per hour
2. GROUND PRIVILEGES. These consist of daily walks under the supervision of staff members. This privilege is not available to all clients, but is to be awarded at the discretion of staff members acquainted with each client's particular problems.	2 per day
3. BED DURING DAY. The clients must pay 2 tokens per hour for time in bed during the daytime, beginning at 7 A.M. and extending until 9 P.M. Scheduled nap times are given free to the clients. If a client has no tokens but wishes to remain in bed, he is to be told he must either earn the tokens so that he may purchase the ivilege or stay out of be client refuses, placed in	2 per hour

Figure 3. Detail Needed When Specifying Reinforcers

The more tokens that a client desires so as to buy privileges, the more tokens he will try to earn through changing his behavior in the desired direction. Figure 3 illustrates the kind of detail that is necessary in specifying reinforcers. Note that it is also important to specify when they are available and for how long, so as to avoid any misunderstanding.

As we said earlier, you must coordinate prices (cost of the reinforcer) with wages (tokens earned) so that most of the tokens a client earns in one week will be spent in that week. This will require that you set the prices so that most of the privileges within the token economy can be attained by the client without undue difficulty.

You should set your prices in a token economy so that most of the ____________ can be obtained by the client without great difficulty.

privileges

In a token economy, it is helpful to be flexible, to "hang loose" and wait to see which activities are in greatest demand. When demand for a particular reinforcer is high, increase the price. When demand is low, decrease the price. This is what happens in the natural market place.

In a token economy, when demand for a particular reinforcer is high you ________________ the price; when demand is low, you ________________ the price.

increase

decrease

There are many things that you can use as tokens. A few of the possibilities include:

Marks on a card
Numbers on a card
Paper stars
Poker chips
Pennies
A counter with a light flash
Tickets
Punches on a card
Plastic chips

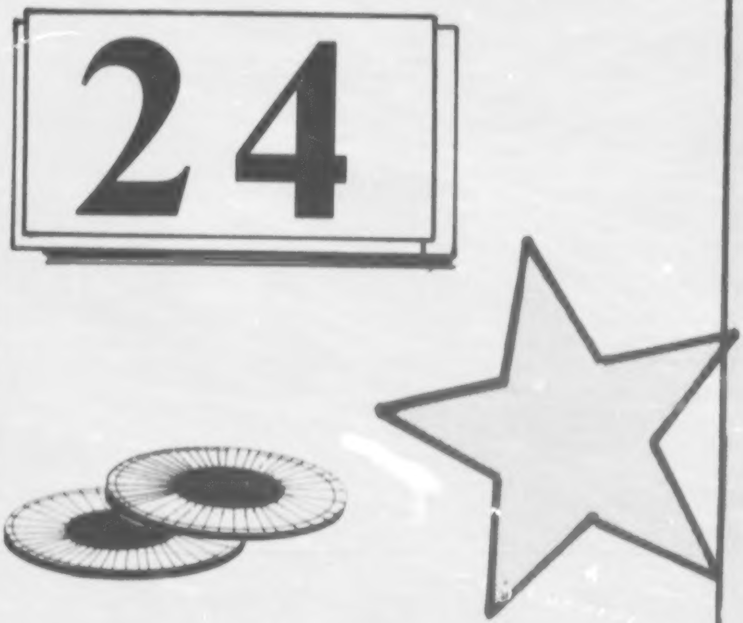


Figure 4. Items Suitable For Use As Tokens

In selecting tokens, keep in mind the ease and convenience of use by the staff. When you have a few clients in a program, plastic chips may do the job. However, with twenty-five clients, the process of passing out plastic tokens might be cumbersome. In such cases, special punches or marks on a card which is kept by the client might be more convenient.	
When selecting tokens, what should you keep in mind? ______________________ ______________.	ease and convenience of use by the staff
A token economy is not a fixed system. It is an evolving (changing) system which must be kept in balance according to the available money (unspent tokens), "customer" preferences (demand), and the stage of each client's progress. If a client accumulates too many unspent tokens, there is no need for him to work to earn more tokens. When this kind of hoarding begins to happen, start looking for reinforcers for which the clients will be willing to spend their hoarded tokens. If this should happen with a large group of clients, you might have to consider confiscating all tokens unspent by, for example, Friday afternoon. Then you would start over for the next week with wages or higher prices.	
What can you do to combat hoarding by the clients of their tokens? 1. ______________________ ______________. 2. ______________________ ______________.	1. look for reinforcers for which they will spend their tokens 2. confiscate unspent tokens
You may need to make another kind of adjustment, which is based on records of token expenditures. If some items are really "big sellers" and in demand, you would increase the prices of these items on your next "product" list. You would eliminate those items not purchased by the clients or reduce their price. By reacting to the client's preferences in selecting reinforcers and	

pricing them, your system will remain more responsive.	
You have a lot of items on the shelves of your token economy store which have not "moved". What can you do. 1. ______________________________ 2. ______________________________	1. reduce the price 2. confiscate unspent tokens
A third program adjustment you may have to make concerns the ratio of work to tokens. In the early stages of a program, you should make it fairly easy for the client to earn tokens for small amounts of work. However, as skills develop and work habits improve, the amount of work required should be gradually increased so that the client's are working longer for fewer tokens.	
As skills develop and work habits improve among your token economy clients, you should ______________ the amount of work they have to put forth to earn tokens.	increase

SELECTED BEHAVIORS SUBJECT TO CHARGES

Behavior	Token Charge
1. INAPPROPRIATE VERBAL BEHAVIOR.	1 per occurrence
a. Talking to oneself or to an imaginary figure.	
b. Screaming.	
c. Sexual talk or the excessive use of profanity.	
d. Rambling on from one topic of conversation to another with no apparent direction to the conversation.	
e. Disrupting a conversation between two people by barging in without being invited.	
f. Talking back to staff members, being generally uncooperative, disrespectful, and rude.	
g. Constant complaints about physical problems, token system, staff members, etc.	
h. Repetitious questions.	
2. INAPPROPRIATE NON-VERBAL BEHAVIOR.	
a. Leaving unit without permission.	10
b. Fighting (physical) or striking another client or staff member.	10
c. Touching members of the opposite sex for erotic as opposed to affectional purposes.	5
d. Compulsive behaviors such as excessive hand-washing, cleaning, etc.	5
e. Mutilating token card.	All tokens on card

Figure 5. Sample specifications of inappropriate behavior for which token charges have been made.

Hints On Token Use

To make tokens work best, allow for frequent exchange periods during the early days of your program's operation. Then gradually reduce the number of exchange periods, if this is indicated. Keep these points in mind:

1. Always praise first. Before you give out tokens, praise the client first, telling him specifically how he earned the tokens. This procedure will increase the value of the praise and make it easier to later fade out tokens. By using behavior-specific praise, you will also be giving the client maximum information about your expectations for him.

Praising the client before giving out tokens will make it easier to later ______________ tokens.

fade out

2. Never haggle. Sometimes a client will approach you and say, "If I do this or that, will I earn x number of points?" Clients may also tray to bargain over the cost of various items. The best response in these circumstances is to give no response. Ignore such haggling. You must maintain control of the price of items and the amount of work required to earn a token at all times.

Clients may try to bargain over the cost of items. Your best response is to __________ such haggling.

ignore

3. Always avoid talking about tokens. Do not mention tokens except to give the client wage and price information. Tell the client what he did to earn points or tokens and give them, but do not mention the tokens themselves. This is because talking about earning tokens or points can deteriorate into coaxing, bribing, or threatening those clients who are not working up to your expectations. Tokens are given for meeting a specific performance goal set for the individual client and should not be an occasion for giving attention to those who are not cooperating.

Tokens are useful to draw attention to uncooperative clients.

______True ______False

False

4. Require a workcheck and corrections. Before giving tokens for completion of an assignment, check each task for accuracy and insist that all mistakes be corrected. Provide any additional instruction that the client needs. This will help in developing the client's expectation of accurate completion of each assignment.	
Quiz	
1. Before giving out tokens for completed work or display of desirable behavior, first ______________ the client.	1. praise
2. Never ______________ with the client or bargain over the cost of items.	2. haggle
3. Do not mention tokens except to give the client ______________ and __________________ information.	3. wage, price
4. Before giving tokens for completion of an assignment, check each task for _____________.	4. accuracy
It is always a good idea to carry out token exchanges with some ceremony. This is because the token exchange provides an opportunity to teach the clients to support each other's progress by applauding for a good performance and otherwise showing mutual appreciation. It is also a chance for the worker to comment on each client's progress before the whole group. You should try to make token exchange time a "big deal", so as to focus attention on each client's progress. _____True _____False	True
With a backup reinforcement system that uses both activities and purchased reinforcers, it may be convenient to sell tickets for activities during the exchange period. Such tickets can then be turned in later at the appropriate time when the activity is being carried on. This way, it is not necessary to have all activity backup rewards going on at the same time. Such an approach serves to give each client something tangible at the conclusion of the exchange period to show for his work, even though he did not choose candy or a toy in exchange for his earned tokens.	

If your token economy uses activities as a reinforcer, you may want to "sell" ____________ which can be redeemed later.	tickets
When the exchange period occurs during the work day, it can be a problem getting the clients back to work. Here, the key is to announce that the exchange period is over and then reinforce with praise and tokens all clients who return to work quickly. Ignore the stragglers. Before too long, the clients will get the idea that it pays to get back to work promptly.	
After your token exchange period is over, you should ____________ this and then ____________ with praise and tokens all clients who return to work quickly.	announce, reinforce
Individualized Token Plans Up to this point, we have dealt mainly with developing a general token economy plan. We need to keep in mind, however, it may be necessary to individualize our approach - to specify target behaviors for an individual client. Following are several steps which are infolved in developing an individual token plan. a. Specify the behaviors that need to be changed. b. Identify the reinforcers that are available for the individual client. c. Assign token values to the behaviors and reinforcers.	
List the three steps involved in developing an individual token plan. 1. ____ __________. 2. ____ __________. 3. ____ __________.	a. Specify the behaviors that need to be changed. b. Identify the reinforcers that are available for the individual client. c. Assign tokens values to the behaviors and reinforcers.

Four basic contingency arrangements are possible in an individualized token plan:

a. Giving tokens for increases in desired behavior (such as grooming and social interaction).

b. Giving tokens for decreases in undesired behavior (such as harming oneself or talking to self).

c. Taking away tokens for increases in undesired behavior.

d. Taking away tokens for decreases in desired behavior.

Following are two important considerations in using an individual plan approach. First, to help change a resistant individual behavior, an important reinforcer (such as a weekend pass) must be isolated and made available only by improvement in the targeted behavior. Second, individual plans must be reviewed periodically to see if they are working. If they are not working, then they must be changed. Obviously, when the problem behavior targeted by the individual plan is gone, the plan can be shifted so as to focus on other behaviors.

Individual plans should be reviewed periodically to see if they are working.

_____True _____False

True

If the problem behavior targeted by the individual plan has ceased, the plan can be shifted so as to ______________ on other behaviors.

focus

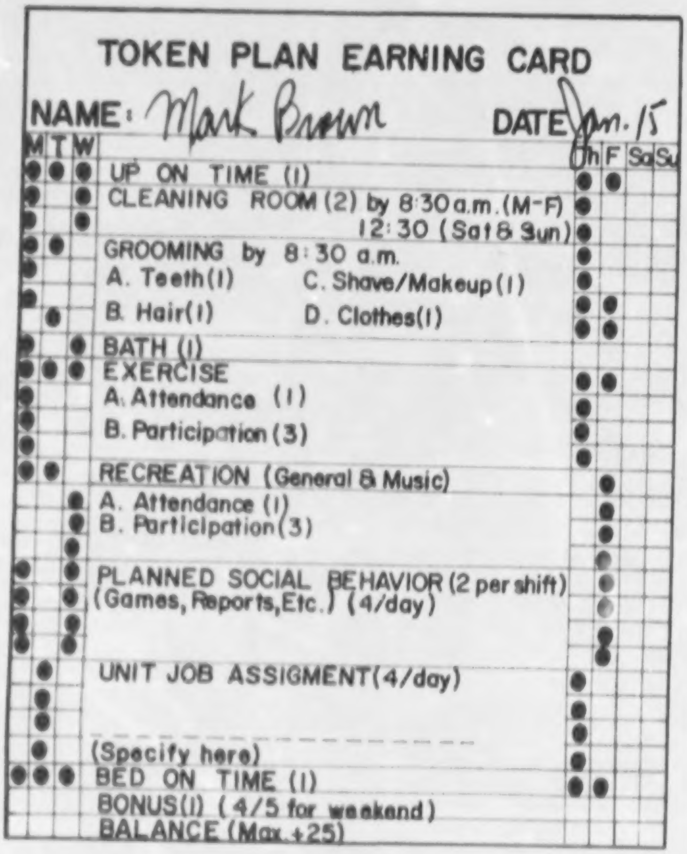
Operating A Token Economy System

As we discussed, the tokens used in a token economy can take a variety of forms, including poker chips, paper money, coins, and marks on paper. Important factors to consider in choosing the form of tokens are: (1) ease in insuring a readily available supply for the staff, (2) control of the possibilities of theft and extortion, and (3) the ease by which transaction records can be kept. Given such factors, many facilities have found that an individual token card carried by the client,

which is punched by a hole punch carried by the staff, is convenient. With properly designed cards, record keeping can be made an integral part of the token award and exchange process.	
An individual token ___________ carried by the client, and punched by the staff, is a convenient way to keep track of the token award and exchange process.	card

A Possible Token Economy System

Some facilities have found that the following system is a simple, effective way to meet record keeping needs in a token economy. In the program, at the beginning of each week, each client is given three token cards: an Earning Card, a Spending Card, and an Individual Plan Card. The staff members carry hole punchers which they use to award tokens by punching the Earning Card. Each staff member carries a different shape hole puncher, so that it is possible to determine precisely who awarded the tokens. The cards are over printed with the target behaviors, making it possible to identify day by day what the client did to earn the tokens.



TOKEN PLAN EARNING CARD

NAME: Mark Brown DATE Jan. 15

M T W Th F Sa Su

UP ON TIME (1)

CLEANING ROOM (2) by 8:30 a.m. (M-F)
12:30 (Sat & Sun)

GROOMING by 8:30 a.m.
A. Teeth(1) C. Shave/Makeup(1)
B. Hair(1) D. Clothes(1)

BATH (1)

EXERCISE
A. Attendance (1)
B. Participation (3)

RECREATION (General & Music)
A. Attendance (1)
B. Participation (3)

PLANNED SOCIAL BEHAVIOR (2 per shift)
(Games, Reports, Etc.) (4/day)

UNIT JOB ASSIGMENT (4/day)

(Specify here)

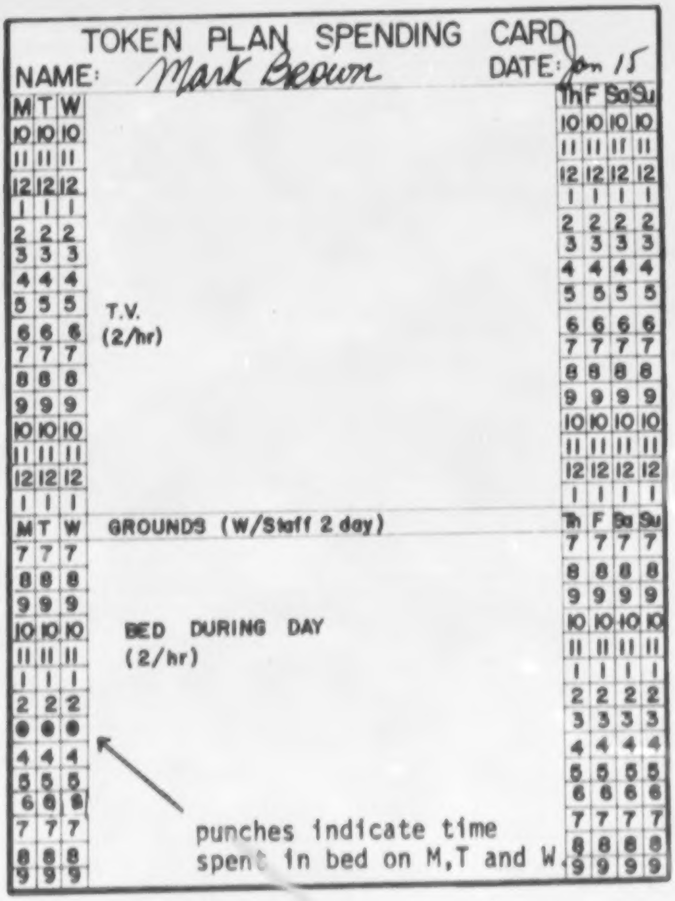
BED ON TIME (1)

BONUS(1) (4/5 for weekend)

BALANCE (Max. +25)

Figure 6. Earning Card

Figure 6 shows an Earning Card with punches on it. You can see that Mark Brown earned five tokens during the week for getting up on time. This token earning activity is indicated by the five holes which are punched into the card on Monday, Tuesday, Wednesday, Thursday and Friday next to the Up on Time category. Further down on the card, you can see that Mark also has earned twelve tokens for Planned Social Behavior.



TOKEN PLAN SPENDING CARD

NAME: Mark Brown DATE: Jan 15

T.V. (2/hr)

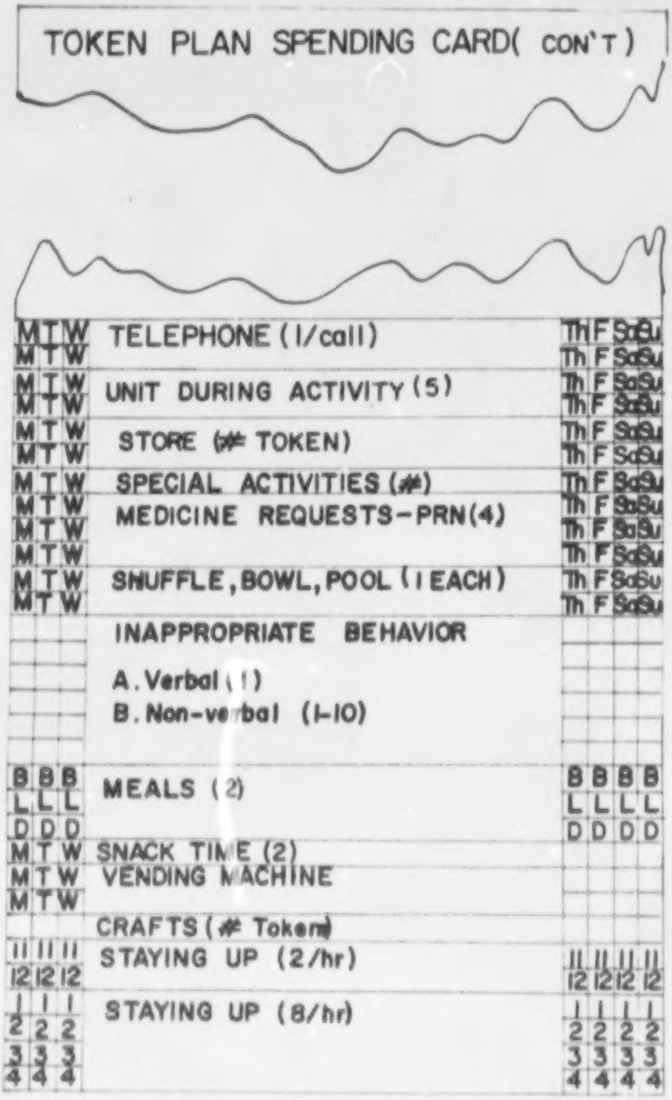
GROUNDS (W/Staff 2 day)

BED DURING DAY (2/hr)

punches indicate time spent in bed on M,T and W.

M T W
Th F Sa Su
10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1
7 8 9 10 11 1 2 3 4 5 6 7 8 9
a

Figure 7. Spending Card

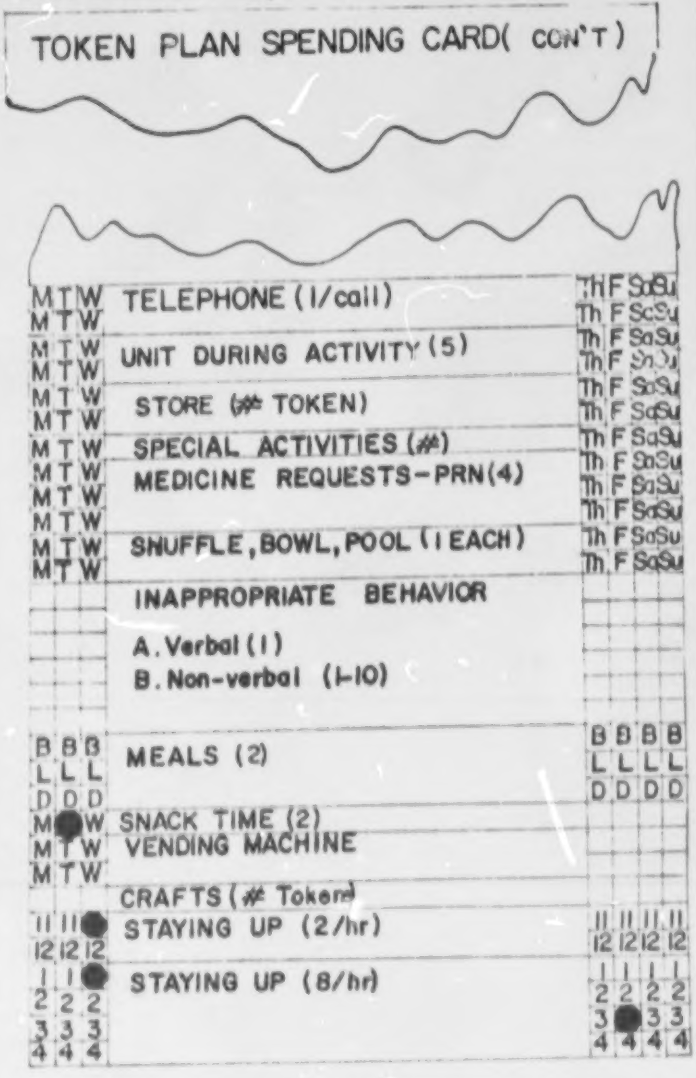


TOKEN PLAN SPENDING CARD(CON'T)

M T W M T W	TELEPHONE (1/call)	Th F Sa Su Th F Sa Su
M T W M T W	UNIT DURING ACTIVITY (5)	Th F Sa Su Th F Sa Su
M T W M T W	STORE (# TOKEN)	Th F Sa Su Th F Sa Su
M T W	SPECIAL ACTIVITIES (#)	Th F Sa Su
M T W M T W M T W	MEDICINE REQUESTS-PRN(4)	Th F Sa Su Th F Sa Su Th F Sa Su
M T W M T W	SHUFFLE, BOWL, POOL (1 EACH)	Th F Sa Su Th F Sa Su
	INAPPROPRIATE BEHAVIOR A. Verbal (1) B. Non-verbal (1-10)	
B B B L L L D D D	MEALS (2)	B B B B L L L L D D D D
M T W	SNACK TIME (2)	
M T W M T W	VENDING MACHINE	
	CRAFTS (# Token)	
11 11 11 12 12 12	STAYING UP (2/hr)	11 11 11 11 12 12 12 12
1 1 1 2 2 2 3 3 3 4 4 4	STAYING UP (8/hr)	1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4

Figure 8. Spending Card Showing A Client's Spending Activity

Figure 7 and 8 shows the Spending Card. The privileges which can be purchased by the client with tokens are listed in the middle of the card. The days of the week are specified on the edges of the card. Each privilege shown can be purchased on a daily basis. As you can see, spending activity is indicated by punching a hole on the time of day for some activities and just for the day of the week on others. The Spending Card permits the staff to keep track of all spending activity during the week. For example, as Figure 7 shows, Mark Brown spent an hour in bed during the day on Monday, Tuesday, and Wednesday at 3:00 P.M. each day.

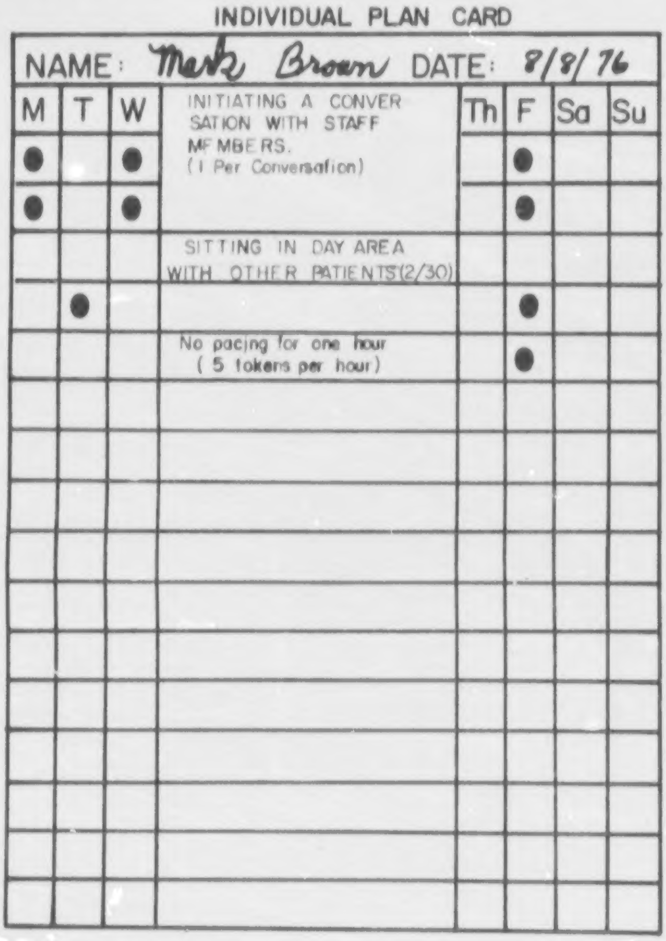


TOKEN PLAN SPENDING CARD(CON'T)

M T W M T W	TELEPHONE (1/call)	Th F Sa Su Th F Sa Su
M T W M T W	UNIT DURING ACTIVITY (5)	Th F Sa Su Th F Sa Su
M T W M T W	STORE (# TOKEN)	Th F Sa Su Th F Sa Su
M T W	SPECIAL ACTIVITIES (#)	Th F Sa Su
M T W M T W M T W	MEDICINE REQUESTS-PRN(4)	Th F Sa Su Th F Sa Su Th F Sa Su
M T W M T W	SHUFFLE, BOWL, POOL (1 EACH)	Th F Sa Su Th F Sa Su
	INAPPROPRIATE BEHAVIOR A. Verbal (1) B. Non-verbal (1-10)	
B B B L L L D D D	MEALS (2)	B B B B L L L L D D D D
M ● W	SNACK TIME (2)	
M T W M T W	VENDING MACHINE	
	CRAFTS (# Token)	
11 11 ● 12 12 12	STAYING UP (2/hr)	11 11 11 11 12 12 12 12
1 1 ● 2 2 2 3 3 3 4 4 4	STAYING UP (8/hr)	1 1 1 1 2 2 2 2 3 ● 3 3 4 4 4 4

Figure 9. Spending Card Showing Deductions

All tokens that are spent must be deducted from the client's earnings as reflected on the earlier card we discussed. This is done by circling all of the tokens that are spent. For example, as you see from Figure 7, if two tokens are spent on Monday at 3:00 P.M. for Bed During Day, the staff member would punch one hole on the Spending Card next to Bed During Day at 3:00 P.M. and then circle two tokens on Card 1 (the Earning Card) to indicate that they have been spent. The circled tokens cannot be used again by the client to purchase other privileges.



INDIVIDUAL PLAN CARD

NAME: Mark Brown DATE: 8/8/76

M	T	W		Th	F	Sa	Su
●		●	INITIATING A CONVERSATION WITH STAFF MEMBERS. (1 Per Conversation)		●		
●		●			●		
			SITTING IN DAY AREA WITH OTHER PATIENTS(2/30)				
	●				●		
			No pacing for one hour (5 tokens per hour)		●		

Figure 10. Individual Plan

The token card shown as Figure 10 is used as the client's individual plan. As you can see, this card is basically an earning card since clients are reinforced with tokens on this card for carrying out their individual behavior plan. Tokens are punched on this card in the same way as they are punched on the other cards. The card in Figure 10 shows Mark Brown's individual earning card punched with tokens earned for engaging in the behaviors specified on the card. In this case, Mark earned 6 tokens for initiating a conversation with staff members, 2 tokens on Monday, 2 tokens on Wednesday, and 2 tokens on Friday. He also earned 4 tokens for sitting with other clients and 5 more tokens for not pacing.

A very important factor in a client's individual treatment plan concerns the criterion of success for any particular targeted behavior. As we indicated earlier, each target behavior has a criterion level at which it is no longer considered a problem. A weekly data summary, which can be prepared, will allow the staff to use the client's performance on a number of specific behaviors in making up the treatment plan for the following week. If the behavior on the individual plan has reached the criterion level, then the treatment plan can be revised to focus on other problem behaviors. This arrangement helps keep the behavior modification program on target and responsive.

What is the principal advantage of a weekly data summary?

____

____

____

____

A weekly data summary allows the staff to use the client's performance to make up the treatment plan for the following week.

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Eventually, the clients participating in a token economy will have to be terminated and returned to a more natural environment where praise, success, and activities are used to maintain motivation, instead of tokens. You can implement a number of procedures during a token program which will help facilitate maintenance of gains when the client's participation in the program ends. These include: fading, intermittent reinforcement, transfer of reinforcement controls and client self-recording.

Fading. If the token system is gradually faded out after desired behavioral gains have been achieved, the desirable behavior is more likely to persist. The number of points given each day for specific behaviors can be gradually reduced to zero. A reasonable rule to follow is to reduce the tokens given out by 5% each day. Also, the frequency of exchanges for backup reinforcers can be reduced and the kinds of backup reinforcers available can be gradually shifted so as to include primarily activities which are readily available, rather than "store" items.

In fading out a token economy system, you should reduce the tokens given out by about __________ each __________.

5%, day

Intermittent reinforcement. We know from our earlier discussions that behavior which is intermittently reinforced is more resistant to extinction. By using the procedures described earlier to slowly shift to increasingly longer intermittent reinforcement schedules, we can increase the likelihood of maintaining the desired behavior.

By using longer intermittent reinforcement, we can ______________ the likelihood of maintaining desired behavior.

increase

Transfer of reinforcement controls. Such reinforcers as praise, attention, task completion and success are apt to become more effective if, in the token economy, they are systematically paired with the giving of tokens, and slowly allowed to stand more and more on their own.

You should systematically pair such inforcers as _____________, ___________, __________ and ______________ with the giving of tokens.

praise, attention
success, task completion

Self-recording. If the client is gradually trained to keep accurate records of his own progress, this self-monitoring can provide feedback information which in turn can help reinforce the client's progress.

Feedback provided from ______________ of an individual's progress can be reinforcing.

self-recording

Summary

In this handout, our main concern has been with a discussion of the concepts involved in establishing a token economy. We noted that in a token economy, we use tokens much like we use money in our natural economy. That is, tokens are given following desirable behavior and can be spent for various desired privileges and store items. We also noted that tokens are valuable in an institutional setting for (1) bridging the time gap between display of the improved behavior and presentation of the reinforcers, (2) in serving as reminders to the client of the behaviors he should be working to improve, and (3) in allowing for a variety of back-up reinforcers. The procedures for setting up a general token economy that we discussed involved:

1. Identification of possible target behaviors.
2. Selection of actual target behaviors.
3. Detailed specification of target behaviors.
4. Assignment of specific token values to particular target behaviors.

5. Identification and specification of reinforcers to be used.

6. Determining prices for the reinforcers.

7. Charging for inappropriate behavior displayed.

8. Producing a token economy manual for use by clients and staff.

We also discussed a number of procedures for the operation of a token economy once it is set up. These include:

1. Taking steps to make the tokens valuable at the start by pairing them with valued backup reinforcers.

2. Using behavior-specific praise before giving tokens to the client.

3. Avoiding haggling or talking about tokens with the clients.

4. Requiring a workcheck and correction of errors before giving tokens to a client for task performance.

5. Making the exchange times important group events for the clients.

In our discussion we came to see how the use of cards and punches in a token system has many advantages. That is, the tokens are readily available, theft and extortion can be controlled, and record keeping is greatly facilitated. In the system we discussed three cards which were used. The Earning Card was used to specify how tokens can be earned, with the punches on the card indicating exactly what is earned each day. The Spending Card is used to specify how tokens can be spent, with the punches on this card indicating the spending choices and when they occur. The Individual Plan Card is used to specify how certain reinforcers can be earned by the client meeting individually specified objectives. We saw that the use of a computer in analyzing and reporting on the data in a token system can greatly facilitate revision of treatment plans and document patient progress, making treatment more responsive and timely.

Student Quiz 100-6
Code 76-6

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

The Token Economy

Multiple Choice Items

1. Which of the following can be considered to be a token reinforcer?

   a. money
   b. trading stamps
   c. gold star
   d. all of the above

2. An important advantage of tokens in a behavior modification program is that they

   a. can eliminate the delay between the occurrence of a desirable behavior and its reinforcement
   b. always maintain their reinforcement properties
   c. require less effort to use than other types of reinforcers
   d. none of the above

3. Which of the following factors should be considered when specifying target behavior to be dealt with in a token economy

   a. the need to specify quantity as well as quality of behavior desired
   b. the need to make the "chunks" of behavior which will earn reinforcement gradually larger
   c. the need to set daily (and later weekly) individualized target behavior requirements.
   d. all of the above

4. Which of the following constitute advantages to the staff of using a token card and hole puncher?

   a. Clients like the idea of using a card because they can show off their progress on the token system to other clients, friends, and relatives.
   b. The staff can readily keep track of all of the client's activities during the week by looking at the earning and spending activity on a weekly basis.
   c. Clients can exchange cards with other clients and they can be therapeutic to each other by analyzing each others' earning and spending activities.
   d. The staff can revise the client's token plan on a weekly basis based on the previous week's behavior as reflected on the token card.

5. In the early stages of a token economy program you should:

- a. make it fairly difficult for the client to earn tokens
- b. make it fairly easy for the client to earn tokens
- c. make the client work longer for fewer tokens
- d. none of the above

True - False Items

6. In a token economy, the client has an opportunity to "earn" tokens that can be exchanged for valued goods and services.

_____True _____False

7. In a token economy, tokens are awarded contingently. That is, they are given only when the behavior being strengthened is displayed.

_____True _____False

8. In a token economy, immediacy of reinforcement is not an important consideration.

_____True _____False

9. A token reinforcer is an object which can be exchanged for items or activities of value to the client in question.

_____True _____False

10. Tokens are valuable because they help focus the client's attention on which particular behaviors he or she is working on - thus facilitating behavioral improvement.

_____True _____False

11. A token economy is a set of procedures for systematically using tokens to reinforce (strengthen or increase) desired behavior.

_____True _____False

12. In a token economy, you should be concerned only with behaviors which are to be strengthened, such as self-care, social skills and work skills.

_____True _____False

13. In operating a token economy, you should set priorities, giving primary consideration to problems which are common to many clients and to changes which are most likely to contribute to an immediate improvement in the client's level of functioning.

_____True _____False

14. It is not necessary for you to be concerned with quantity of behavior in a token economy, since your main interest is in the quality of behavior.

_____True _____False

15. A token economy must be kept in balance according to available money (unspent tokens), client preferences (demand) and stage of client progress.

_____True _____False

16. The motivation to earn tokens is directly proportional to the attractiveness of the items the client can purchase with the earned tokens.

_____True _____False

17. In selecting tokens, do not be overly concerned with the ease and convenience they have for use by the staff.

_____True _____False

18. Generally, as skills develop and behavior improves, the amount of behavior required should be gradually increased so that the clients are performing longer for fewer tokens.

_____True _____False

19. Generally, inappropriate behaviors cannot be weakened by requiring the clients in the token economy plan to pay a fine, or charge, each time the inappropriate behavior occurs.

_____True _____False

Completion Type Items

20. The basic procedural unit in a token economy is the client's ________ _________, which is followed by a ____________ reinforcer, which is then exchanged for a ______________ reinforcer.

21. A desirable behavior is more likely to persist if the token system is gradually ____________ out after desired behavioral gains have been _________________.

22. By slowly shifting to increasingly longer intermittent reinforcement ___________________ we can increase the likelihood of maintaining desirable behavior established under a token economy system.

23. Systematic pairing of such reinforcers as ____________, ____________, _________________, and ________________ with the giving of tokens will help them become more effective when the point is reached where they must "stand on their own".

24. If the client's behavior on an individual treatment plan has reached the ________________ level, then the treatment plan can be revised to focus on other __________________ behaviors.

25. In developing an individual token plan you need to:

(a) ______________ behaviors that need to be changed
(b) Identify _______________ available to the client
(c) Assign token values to both the ____________ and _____________.

Situational Items

26. Mr. Brown got up on time on Monday, overslept on Tuesday and Wednesday and got up on time the rest of the week including Saturday and Sunday. Award him the appropriate tokens by putting an X in each of the appropriate correct squares on the token Earning Card duplicated below.

			Token Earning Card					
S	M	T	Up on time (1 token)	W	T	F	Sa	
			Room clean (1 token)					
			Grooming (2 tokens)					
			Bed on time (2 tokens)					
			Attending Group (2 tokens)					

27. Mr. Brown failed to clean his room at all this week but he earned his grooming tokens on Monday, Tuesday, and Thursday. Award Mr. Brown the appropriate number of tokens by putting an X in each appropriate square on the following token earning card.

Token Earning Card

S	M	T			W	T	F	Sa	
			Up on time (1 token)						
			Room clean (1 token)						
			Grooming (2 tokens)						
			Bed on time (2 tokens)						
			Attending Group (2 tokens)						

28. Mrs Jones threatens bodily harm on another patient on Friday. She is being charged 2 tokens for this inappropriate behavior. Use circles to charge her the tokens on the Token Earning Card and to make the correct entry on the Token Spending Card provided below:

Token Earning Card

S	M	T		W	T	F	Sa
			Up on time (1 token)				
			Room Clean (1 token)				
			Grooming (2 tokens)				
			Bed on Time (2 tokens)				
			Attending Group (2 tokens)				

Token Spending Card

S	M	T		W	T	F	Sa
			Inapprop. Verbal Behavior				
			Inapprop. Non-verbal Behavior				
			Token Store				

29. General Situation:

The summary provided of Mr. Jones token activity for last week indicate the following earning and spending activities:

GROOMING: 10 out of 10 possible tokens earned.
CLEANING ROOM: 10 out of 10 possible tokens earned.
PLANNED INTERACTION WITH STAFF: 2 out of 10 earned.
GAMES PLAYED WITH OTHER PATIENTS: 1 out of 10 earned.
ATTENDING RECREATIONAL ACTIVITIES: 10 out of 10 earned.
PARTICIPATING IN RECREATIONAL ACTIVITIES: 0 out of 10 earned.

Task: From the following possibilities, select the revised plan that most completely incorporates these data.

a. Give Mr. Jones more chances to earn tokens for things he does well, such as grooming, cleaning room, etc.

b. Concentrate on social interactions with staff, other clients and at recreation by making his weekend pass contingent on Mr. Jones' earning at least 50% of the tokens for planned interaction, games, and participation in activities.

c. Remove Mr. Jones from recreational activities, planned interactions, and game time with clients and concentrate on self-help skills such as bathing, cleaning, and other routine personal procedures.

Solution To Student Quiz
Code 76-8

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

The Token Economy

1. d
2. a
3. d
4. b and d
5. b
6. True
7. True
8. False
9. True
10. True
11. True
12. False
13. True
14. False
15. True
16. True
17. False
18. True
19. False
20. behavior, token, backup
21. faded, achieved
22. schedules
23. praise, attention, task completion, and success
24. criterion, problem
25. (a) specify (or identify) (c) reinforcers (d) behaviors and reinforcers

26.

Token Earning Card

S	M	T		W	T	F	Sa
X	X		Up on time (1 token)		X	X	X
			Room clean (1 token)				
			Grooming (2 tokens)				
			Bed on time (2 tokens)				
			Attending Group (2 tokens)				

27.

Token Earning Card

S	M	T		W	T	F	Sa
			Up on time (1 token)				
			Room clean (1 token)				
	X	X	Grooming (2 tokens)		X		
			Bed on time (2 tokens)				

28.

Token Earning Card

S	M	T		W	T	F	Sa
X	X		Up on time (1 token)		X	X	X
			Room clean (1 token)				
			Grooming (2 tokens)				
	X	X			Ⓧ		
			Bed on time (2 tokens)				
			Attending Group (2 tokens)				

Token Spending Card

S	M	T		W	T	F	Sa
			Inapprop. Verbal Behavior			2	
			Inapprop. Non-verbal Behavior				
			Token Store				

○ - Circle indicates 2 grooming tokens were charged for the inappropriate behavior

Supporting Material 100-6
Code 76-8

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

PROCEDURES FOR ESTABLISHING A TOKEN-BASED PRIVILEGE LEVEL SYSTEM

OVERVIEW OF THE PRIVILEGE LEVEL TOKEN-BASED PROGRAM

This handout describes a privilege level, token-based therapeutic program developed at Terrell State Hospital. The primary therapeutic stategy in the program centers on the use of well-established principles of learning, to habilitate or rehabilitate adult adjustment skills in in-patients. Adult adjustment skills are viewed as either (1) general abilities that all individuals who live independently must have, such as adequate hygiene or (2) relate to individual problems in living, such as the control of emotionality. The rationale underlying the Terrell State Hospital Program is that the inadequate rates of adult adjustment skills that resulted in society labelling individuals as mentally ill can be viewed as behavioral problems in living. These problems can be solved by changing specified and well-defined behaviours. The thrust of the program may be summarized as involving the establishment of consistent consequences for both adequate and inadequate behavior. Consequences are manipulated in terms of rewards and response costs for both general classes of behaviour and individually targeted behavior.

Structurally, the program contains a hierarchy of general privilege levels which can be obtained as a consequence of consistent behavior on the part of each client. Since participation on each level is keyed on increased rates of socially adaptive behavior and decreased rates of maladaptive behavior, consistent performance at the highest level can be operationally defined as maximum program benefit. A token economy was built into the privilege level system. A token economy can be defined as a comprehensive motivating community which stresses the importance of the environment in changing and maintaining behavior. The primary principle in a token economy is that the behavior should have tangible and well-defined consequences. Thus, the motivating community is structured so that defined behaviors will have either a pay-off or a cost. These pay-offs and costs are defined in economic terms. Earning a medium of exchange (a token) is contingent upon the client's behavior.

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This program assumes self-responsibility as both a general treatment technique and as a treatment goal. Self responsibility is viewed as a technique in the program. This is because the environment will be arranged so that each individual client's behavior will have consequences aimed at solving current and anticipated problems in living. In this connection, it is when behavior has consistent and well-defined consequences that an individual learns that it is his actions that determine both the rewards and punishments his environment has to offer. Therefore, self-responsibility functions as a technique in that it is an arrangement of consistent environmental consequences. It is also a goal or trait, in that an individual can be led to learn that it is what the client does that makes the difference. The first two environmental arrangements, the privilege level system and the token economy are considered to be techniques of self-responsibility to guarantee the establishment and maintenance of adult adjustment skills (which are viewed as the traits of self-responsibility). This arrangement can also be viewed in terms of control and structure. Initially, the client's environment is highly structured with a large degree of external control in the form of immediate consequation of his behaviors. As the client develops self-responsibility for his behavior and adds a greater repertoire of adjustment skills, external control and structure is progressively decreased. Since the aim of the program is to return individuals to community living, it is essential that the clients develop independence and self-control.

THE PRIVILEGE LEVEL SYSTEM

The Privilege Level System is an organization of the ward environment aimed toward the establishment of self-responsible behavior. Each of the four levels of this system represents a progression of self-responsible behavior associated with a parallel progression of client privileges. Such an arrangement provides a concrete example to the client that his behavior determines what the consequences (privileges) will be. The client himself, by his behavior, is responsible for whichever privilege level he is currently assigned to.

Central to the privilege level system is the organization of staff responsibility around a given level. Where possible, each level should represent a separate dorm and team of staff members responsible for that particular dorm (level). This arrangement is based on the sound behavioral principles of defining the precise relationship between target behavior and the person responsible for reinforcement; insuring the recording of accurate documentation; making the staff member accountable to the ultimate consumer (the client); increasing the probability of consistency in client care; and providing reinforcement to the individual staff member for his or her progress in solving the problems of individuals at the privilege level for which he or she is responsible. Other advantages of this arrangement include: a division of labor that is client oriented; a division of therapeutic activities that can be tailored to clients with similar problems; increased knowledge of individual clients and their problems; and the structuring of staff work schedules to the client needs. The level team approach is perhaps one of the most effective ways for insuring problem oriented staff-client interaction, needed for success in such an endeavor.

Another important concept in the privilege system centers on its method of documentation. The accurate collection of meaningful data is at the heart of any behaviorally oriented system of therapeutic change. While traditional techniques of documentation have not been oriented toward insuring accountability for the behavior of both staff and clients, the method proposed herein does both. Three basic data forms used in this program. Two of these relate primarily to the token economy, while the third relates primarily to the privilege level system. The Privilege Level form, with its accompanying behavior description sheet, are appended. This form is called the "Daily Rating Sheet", with an explanation of it also serving as an explanation of the Privilege Level System.

As can be seen from the sample form provided, the Daily Rating Sheet describes the rating for five patients for any given day. Ten behavioral categories are listed with each being made up of several discrete behaviors represented by letters. These discrete behaviors are itemized on the behavior explanation sheet which accompanies the Daily Rating Sheet.

The last behavioral category "Problem Solving" refers to a client's overall ability to solve the problems which led to his or her institutionalization. This category is reserved to individuals in levels three and four and assumes the client's ability to solve the other more basic problems itemized in the other categories. Problem solving in this context is directly related to problems the individual must solve to maintain himself in the outside community. This category is rated on a ten-point scale.

Successful fulfillment of the behaviors noted in each category results in the payment to the client of ten cents in

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tokens. Successful fulfillment is defined as a rating in any category above 70%.

The rating sheet is used in the following way. The client's dorm leader rates the clients in the dorm daily on each of the categories listed. Whenever a client fails to perform any one of the individual behaviors the letter representing this behavior is circled. After a day's rating, the dorm leader meets with the group, discusses the rating and dispenses tokens that are due the client. This procedure involves two vital prerequisites of problem solving. First, it gives the clients feedback concerning what is expected of them; how they are currently doing; assures the continued problem oriented performance of the staff by giving them objective tasks to perform daily; documents their daily interactions with the clients; and makes them accountable to the clients because it is the client who receives the benefit from their ratings.

One thing should be pointed out before the exact descriptions of the four levels is undertaken. That is, the performance required for the successful fulfillment of any of the discrete behaviors is defined in more or less arbitrary terms. This is essential to insure that all staff members and clients know what the requirements are for each given behavior and to insure that a given overall rating will mean the same thing to any client, staff member or outside observer. While a regressed patient may, for example, brush his teeth in a more appropriate fashion one day than he did the day before, if his performance failed to meet the specified requirement, he would not be rated as successful in performing this particular behavior. This is not to suggest that the process of shaping the task of brushing one's teeth will go unreinforced. If teeth brushing is a problem for a client, it will be individually targeted and reinforced with tokens and praise independent of daily rating. The daily rating is intended to be an objective measure of a client's progress toward ultimate discharge and is therefore keyed to that level of performance which will be necessary for the individual to maintain himself or herself in the outside community.

THE PRIVILEGE LEVELS

LEVEL I.

This privilege level is intended for individuals whose overall daily rating is consistently below 40%.

REQUIREMENTS:

1. No outside privileges.
2. Required to awake and go to bed at a set time.
3. No passes.
4. Required 30 minute walk with staff each day.

PRIVILEGES:

1. May have visitors once a week on the ward for 1 hour.
2. One weekly trip to the canteen.

It should be noted that a client who is performing below the 40% level may be characterized as either regressed or overtly psychotic.

LEVEL II.

This privilege level is intended for individuals who for one week have had a daily rating of over 41%.

REQUIREMENTS:

1. Limited outside privileges.
2. Required to awake and get up at set time.
3. Limited passes.
4. Required 30 minute walk with staff member.

PRIVILEGES:

1. May have visitors once a week off the ward for one hour.
2. Three trips a week to the canteen.
3. May go off the ward with a staff member.
4. May have one weekend pass each month on staff recommendation.
5. Birthday party without gift.
6. Free cup of coffee at daily dorm meeting.

LEVEL III.

One week of daily rating over 60%.

REQUIREMENTS:

1. Must be in problem oriented group and have made a contract to solve a major problem in living.

PRIVILEGES:

1. May have visitors twice a week off the ward.
2. Unlimited trips to the canteen.
3. May stay off the ward onehalf day.
4. May go to town for movies and bowling for 25¢ in tokens each.
5. Birthday party with gift.
6. Two (2) free cups of coffee at daily dorm meeting.
7. May have personal locker in dorm.
8. May have personal bed spread, pillows, etc. in dorm.
9. Have personal conservation area in dorm.
10. May sit at a special table in cafeterias with table cloth, extra glass of tea at meals, extra dessert.
11. May go into town once a week with staff member.
12. Can stay up or stay in bed 1/2 hour later than other residents.
13. Picnic with staff once a week.
14. May go to dance once a week.
15. May play competitive sport with staff once a week for prizes.
16. No supervision in the bathroom.
17. May have radio.

LEVEL IV.

One week of daily rating over 91%.

REQUIREMENTS:

1. Must be in problem oriented group and have made contract to solve a major problem in living.
2. Must have I.T. job assignment.
3. Must be in individual or group therapy.
4. Must be on selfmedications.

PRIVILEGES:

All privileges listed in Group III, plus:

1. May have visitors any time off the ward.
2. May go into town with visitors for lunch.

3. May go into town by self with special permission.
4. May stay off the ward all day.
5. Have separate room.
6. Group may have T.V. in LEVEL IV Suite.
7. May go to town for movies and bowling free.
8. May have two free cigarettes and free coffee during daily dorm meeting.
9. May eat on ward in special dining room and have double portions of all items.
10. May stay up and go to bed at will.
11. May go on weekly field trip.
12. May have daily "socials" with female clients.
13. Rated only on responsibility and problem-solving-receives automatic pay for other 8 categories.
14. May go home on week or two week short-term furloughs.
15. Receives a weekly token salary contingent on individual Behavior Contracts.

The privileges and requirements for the various levels are not fixed and will change as the program evolves and more potential reinforcers are made available. The test of any privilege is ultimately its potential in changing behavior and creating environment as similar as possible to the outside community.

VI. THE TOKEN ECONOMY

The privilege level system uses both token reinforcement and increased privileges to motivate clients toward a progression of behavioral change aimed at ultimate discharge. However, the Privilege Level System is insufficient in and of itself to insure behavioral change for discrete problematic behaviors. The privilege level system can help change behavior that is already within the individual's repertoire, but is bein suppressed due to a lack of reinforcement. Other behaviors that are symptomatic, or the result of regression, are not in the individual's behavioral repertoire and must be dealt with on an individual basis. One of the most effective methods of changing or teaching such behavior is through the use of token reinforcement, contingent on the occurrence of the desired behavior.

TOKENS

For individuals at Privilege Levels I and II, plastic tokens are used which range in value from 5¢ to 50¢. At Levels III and IV, a punch card is used on which identical monetary values are punched out.

EARNING TOKENS

Tokens are earned as an immediate result of performing desired adaptive behavior. Whenever a decision is made to target a desired behavior, baseline data is first collected and analyzed. The next steps involve the writing of a formal behavioral prescription; the consistent application of the prescription followed by the evaluation of the prescription; and finally, if necessary, the modification of the prescription. As one behavior is modified through the use of contingent token reinforcement, another behavioral problem is chosen to be likewise modified. Ultimately, the individual is gradually weaned off of tokens to a point where (1) social reinforcement is sufficient to maintain the behavior and (2) the behavior ultimately becomes reinforcing in and of itself. The procedure can then be viewed as progressing from external control (tokens and social reinforcement) to autonomous "internal" control.

BACKUP REINFORCERS

Tokens are effective modifiers of behavior only insofar as they are backed up by tangible items. Tangible backup reinforcers include a wide assortment of goods such as: coffee, candy, tobacco products, soft drinks, personal items such as: combs, clothes, etc. and other sundry things that an individual could buy in the community. These items are either purchased through normal supply channels or donated. Other tangible reinforcers involve such things as privileges and activities. The privileges, for example, at each level of the privilege system insure the individual the option of engaging in these behaviors, he will nevertheless have to pay for many of those behaviors with tokens. Since the more things an individual likes to do, the more likely he is to change his behavior in order to earn tokens to pay for these things, a wide as possible range of reinforcing activities will be made available. An explicit aim of the program is to give the individual as much freedom of choice in what does as his self-responsibility justifies.

RESPONSE COST

The giving of tokens is a method of increasing the possibility that a given client will engage in self-responsible behavior. Likewise, the taking away of tokens is a method of reducing the possibility that a client will engage in an irresponsible behavior.

The procedure of taking away tokens is called response cost. While the emphasis of the program is on the establishment of responsible behavior through the technique of positive reinforcement, irresponsible behavior must be likewise consequated. There are pre-defined behaviors which will result in any individual having to pay a token fine. In addition to these behaviors, symptomatic behavior which is judged to be amenable to the response cost technique is also targeted and consequated. Of course, response cost cannot be regarded as a panacea for these individual symptomatic behaviors. In many cases the behavioral technique of extinction (ignoring the behavior) will be used first. Response cost will be used primarily for behaviors that are not reduced by extinction or for those that disturb other individuals.

An additional consequence of these unadaptive behaviors is that each occurrence results in a one percentage point loss on Daily Rating Sheet for Levels I and II individuals, and a two point loss for individuals in Levels III and IV. In this way, the techniques of response cost and extinction can be utilized at the same time. While the behavior will not have its usually reinforcing consequence (extinction), it will have a delayed response cost due to the loss of percentage points.

The response cost technique is also a method of insuring that individuals who are overtly psychotic but nevertheless have the self-help skill to progress to Level III do not obtain privileges that are counter-therapeutic. The loss of percentage points or tokens will prevent the overtly psychotic individual from receiving privileges that may be a danger ot himself or others.

BEHAVIORAL PRESCRIPTIONS

Each individual client has individual behavioral problems that must be treated in an individualized way. A first step in this individualized treatment program is the application of standard behavioral prescriptions to the problematic behavior. If the standard procedure is ineffective, a comprehensive behavioral prescription is written to deal with the problem. In either case, adequate baseline and treatment data is obtained. Folllowing is a list of 57 problem behaviors with their standard behavioral prescription.

BEHAVIORAL PRESCRIPTIONS

This is a list of Behavior Prescriptions. Behavior Prescriptions serve the same purpose as a physician's prescription for medication. The prescription allows for a consistant plan to treat an individual's problems in living. The prescription is an exact plan to be followed in changing behavior problems just like the medical prescription is an exact plan to be followed in changing a physical problem.

These behaviors are either disruptive behaviors that occur at a high rate or appropriate behaviors that occur at a low rate. The low rate appropriate behaviors are assumed to have been learned by the client but are not being performed because of inadequate motivation. If the client has never learned an appropriate behavior or is markedly regressed, the shaping techniques discussed elsewhere should be used. If any of the behaviors do not respond to the consequences listed, an individual Behavior Prescription should be made stating the consequences to be followed.

Keep in mind that successful behavior therapy consists not only of the removal of undesirable behaviors, but of shaping up more acceptable behaviors as well. This list only covers behaviors which we wish to get rid of. Behaviors which we would like to see more of in the patient (attentiveness, cooperation, eagerness to improve, etc.), should always be met with lavish praise.

Behavior	Consequence	Schedule	Discriminative Stimulus (Cue)
Refusal to eat (hunger strike)	Ignore the behavior	Each time the behavior or threats of it occur	Dining or ward area
Suicide threats	Patient is deprived of privacy and any materials with which he might bring on sudden death. It is also important to reinforce behaviors or verbalizations which are incompatible with suicide, e.g., plans for the future. Ignore the behavior.	The restrictions should be lifted as soon as the patient's interest in constructive activities and also his own statements make it evident that he is no longer interested in killing himself, each time.	Presence of staff
Fainting	Ignore the behavior (Note: The patient should undergo a complete medical examination prior to treatment to rule out organic causes)	Each time	Presence of staff
Excessive office visits	Ignore the behavior	Each time	The office

BEHAVIORAL PRESCRIPTIONS (Continued)

Behavior	Consequence	Schedule	Discriminativ Stimulus (Cue
Getting around nursing personnel (The use of flattery to manipulate a staff member	Ignore the behavior (This is made easier for the staff member if a consistent system of recognition for a job well-done is supplied by the staff member's supervisors.)	Each time	Presence of the susceptible staff member.
Temper tantrum (chronic)	Place patient in time-out. (If time-out fails, response cost in terms of restraint until the patient demonstrates control.	Each time (each successive occurrence to accompanied by a 5-minute increase in period of calm required before release.	Any stimulus situation in which the patient has a tantrum to get his way.
Temper tantrum (cases in which the behavior is a new one or cases previously maintained on a continuous schedule of reinforcement.	Ignore the behavior	Each time	Any situation in which the patient does not get his way.
Public incontinence (enuresis or encopresis)	Have the patient clean up his mess then place him in time-out. (Note: The patient should undergo a thorough medical examination prior to treatment to rule out organic causes. Attach prohibitive cost.	Each time (five minutes in time-out for the first occurrence of the day; add 5 minutes each time the behavior occurs again)	Whenever the behavior occurs.
Cursing or screaming.	Place patient in time-out.	Each time (each successive occurrence is accompanied by a 5 minute increase in period of calm before release.)	Whenever the behavior occurs.
Fighting (situational)	Place patient in time out (reinforcement of more acceptable behavior is particularly important in cases of this type.)	Each time (each successive occurrence is accompanied by a 5 minute increase in period of calm required before release.	Minor frictions with eligible opponent.

BEHAVIORAL PRESCRIPTIONS (Continued)

Behavior	Consequence	Schedule	Discriminative Stimulus (Cue)
Fighting (habitual)	Restitution training	Each time.	Whenever the behavior occurs.
Absenting oneself without permission	Return patient immediately to the environment from which he escaped.	Each time.	Ward
Tics	Negative practice (If this fails, combine negative practice with anxiety relief conditioning.)	Each time.	Whenever the behavior occurs.
Delusions, crazy talk, hallucinations.	Ignore the behavior, but reinforce good conversation or sensible behavior. (Response cost if frequent.)	Each time	Wherever the behavior occurs.
Token throwing	Collect and keep thrown tokens, giving patient as little attention as possible.	Each time	Wherever the behavior occurs.
Mutism	Respond only to appropriate verbalizations. (Some lower level patients may require reinforcement by successive approximation.)	Each time	Presence of individuals with whom nonverbal means of communication have previously been successful.
Public undressing.	Attach a prohibitive cost to the behavior.	Each time	Whenever the behavior occurs.
Hoarding	Satiate the patient's desire for the hoarded objects by giving him much more than he wants or can use.	Random	Wherever the behavior occurs.
Breaking & throwing.	Require patient to correct the damage he created and have him improve the appearance of the rest of his surroundings as well, e.g., if patient throws a chair he will be required to straighten all other chairs and tables as well as related objects. (Restitution.)	Each time.	Wherever behavior occurs.

BEHAVIORAL PRESCRIPTIONS (Continued)

Behavior	Consequence	Schedule	Discriminative Stimulus (Cue)
Annoying or frightening others.	Require the offender to reassure his victims the offense will not be repeated and to apologize to all persons present. Uncommunicative patients could be required to use gestures. (Restitution.)	Each time	Presence of other patients or staff.
Injuring others	Require the offender to assist in cleansing and medicating the wound and in filling out the necessary reports. For the non-verbal offender, head gestures in the appropriate direction are required to indicate.		
Yelling or threatening	Restitution - Token fine	Each time	Ward
Crazy talk and baby talk	Ignore - reinforce normal talk with tokens & social.	Each time Each time FR3 VR5	Ward
Repeatedly asks same question	Ignore after first question.	Each time.	Ward
Loud, vulgar language.	Restitution - token fine payed to other person.	Each time.	Ward
Vulgar language	Ignore	Each time.	Ward
Teases or baits others.	Restitution - token fine payed to other person.	Each time.	Ward
Does not ignore others inappropriate behavior	Token fine	Each time	Ward
Breaks property other than own	Restitution - must pay for property with own funds - work.	Each time	Ward
Talks to self (chronically)	Ignore-reinforce with tokens & social when client not talking to self	Each time Each time FI 15 min. VI 30 min.	Ward

BEHAVIOURAL PRESCRIPTIONS (Continued)

Behaviour	Consequence	Schedule	Discriminative Stimulus (Cue)
Talks to self occasionally	Ignore	Each time	Ward
Rocks back and forth	Ignore-reinforce with tokens & social when client not.	Each time F1 15 min. V1 30 min.	Ward
Lays on, or sits on floor	Ignore-token fine	Each time	Ward
On bed in day (chronic)	Ignore- token fine	Each time	Ward
Gets tobacco off floor	Loss of all cigarettes for day		Ward
Paces (chronic)	Ignore-reinforce with token & social when client not pacing	Each time	Ward
Inappropriate touching	Restitution- token fine	Each time	Ward
Digs in garbage occasionally	Ignore-token fine	Each time	Ward
Gives away back-up reinforces	Client must pay 3 times the value	Each time	Ward
Public urination	Restitution-personal mess&bathroom urinals	Each time	Ward
Eating inappropriate materials (garbage,cigarettes, feces,etc.) and biting	Response cost combined with restitution training in which the patient cleans up his mess,brushes his teeth and gargles with an oral antiseptic.(If this fails,telemetry may be indicated).	Each time	Wherever the behaviour occurs.
Does not eat in dining room	Ignore, do not warn, miss meal	Each time	Meal call
Disruptive in dining room	Immediate removal from dining room	Each time	Conflict in dining room

BEHAVIOURAL PRESCRIPTIONS (Continued)

Behaviour	Consequence	Schedule	Discriminative Stimulus (Cue)
Does not clean up personal mess	Response cost-restitution-must clean up entire area	Each time	"Sight of mess"
Will not get out of bed	Ignore-token fine	Each time	Client in bed
Refuses to make bed	Ignore-token fine (If unable teach & shape with tokens)	Each time	Unmade bed
Refuses to clean personal areas	Ignore-token fine (If unable teach & shape with tokens)	Each time	Unmake bed
Refuses to clean personal areas	Ignore-token fine (If unable teach & shape with tokens	Each time	Disordered personal area
Refuses to bathe	Ignore-token fine (If unable teach & shape with tokens)	Each time	Bath room
Refuses to engage in necessary hygiene(specify)	Ignore-token fine (If unable teach-shape with tokens)	Each time	Bath room
Refuses to wear clean or appropriate clothes	Ignore-token fine (If unable teach-shape with tokens)	Each time	Ward
Not in bed at appropriate time	Ignore-token fine	Each time	Lights out
Disruption after lights out (occasional)	Ignore-token fine		After lights out
Disruption after lights out(chronic)	Time out room until in control	Each time	After lights out
Late for medication	Ignore-token fine	Each time	Medication time
Throwing or over-	Restitution-token	Each time	Ward
Smoking in dorm	Loss of tobacco for two days	Each time	Ward
Spits inside bldg.	Restitution-token fine	Each time	Ward

SPECIAL PROCEDURES FOR DISRUPTIVE CLIENTS

A Considerable body of research evidence suggests that the primary reason individuals are physically disruptive is that their disruptive behavior is reinforced. It is the consequences of this behavior that maintain it. If the consequences of the behavior are changed so as to make the behavior "unprofitable" for the individual, the disruptive acts invariably disappear. This principle is so well established that it is considered by many to be a law of behavior. Since the aim of the proposed program is to establish self-responsible behavior, an individual's disruptive behaviors must have a consequence that will reduce or eliminate them. The procedures listed below are designed not only to eliminate physically disruptive behavior also but to teach the individual that he is responsible for both his behavior and its consequences. It must be emphasized that these techniques will not be indiscriminately used. It must also be emphasized that these techniques are not punitive, great stress is placed on the point of not simply suppressing the disruptive behavior but on teaching self-responsibility and self-control. These procedures are far less restrictive than traditional methods of long term seclusion or chemical restraint. Even though these procedures are less restrictive than traditional ones, their use should be minimal. In fact, a token economy that stresses increases in adaptive behavior will find less and less use for these techniques as the programs progress. Simply put, any token program that does not have a far greater balance of positive procedures over negative procedures, is not working for the client's benefit. The crucial point is to have a greater balance of positive techniques so that negative techniques are unnecessary.

I. TIME OUT - Time out from positive reinforcement is a procedure in which an individual is placed in a non-reinforcing environment for a specified period of time as consequence of some disruptive behavior. In the proposed program, time-out is used for two classes of behavior. The first occasion for its use is a part of an individual behavioral prescription as a consequence of some previously defined unadaptive behavior for which fines (response cost) were uneffective. The second occasion for its use is as a consequence of behavior that is judged to be a threat to others or property. When a client has demonstrated that he is out of control, he is asked to go into time-out until he has demonstrated he has control of his behavior. On either occasion, the criteria for period of time out is fifteen minutes of nondisruptive behavior.

A special room is usually set aside as a time-out room. This room remains unlocked while the client is in time-out unless the client is in such a state of agitation that he refuses to remain in the room. The client only stays in time-out until he has demonstrated self-control. Self-control is defined as 15 minutes of nondisruptive behavior. The client will be told, "The length of time you stay in time-out is your responsibility. When you become quiet, I will start the clock and after 15 minutes of nondisruptive behavior, you may leave." This technique emphasizes that it is the individual himself who is responsible for the consequences of his behavior and that the individual himself has control over when he may leave time-out.

II. RESTITUTION - The rationale of the restitution procedure is to educate the client to assume individual responsibility for the disruption caused by his misbehavior by requiring him to restore the disturbed environment to a greatly improved state. The restitution procedure should directly relate to and occur immediately after the disruptive act.

In general terms, the technique involves:

(1) Requiring the client to restore the disturbed situation;
(2) Require him to answer these questions:

    (a) What did you do?
    (b) What happens when you do that?
    (c) What else could you have done?

(3) Role playing an appropriate alternative behavior.

The restitution procedure is primarily used for five classes of disruptions:

1 Household disruptions. For example, a client who turns over a bed is required to straighten all beds on the ward.

2. Interpersonal disruptions. For example, a client who frightens or annoys other clients is required to apologize to all persons present, assuring them it will not happen again.

3. Destruction of property. This is a behavior that must be consequated if it is to be eliminated. Not only do destructive acts result in the loss of a privilege level, but the client is required to "pay" for the destroyed property on a pro-rated basis based on his current level of token earnings and/or by doing a pro-rated number of tasks. The actual amount of "payment" is a critical issue and

must not be arbitrary. Payment should depend on the client's level of functioning and the effect a token payment will have on his overall motivation. If a token payment is too large, his performance of other adaptive behaviors will be extinguished due to the loss of tokens. Detailed documentation should be made specifying the behavior, the assessed damage, the rationale for this assessment and an itemization of repayment in terms of tasks and time or tokens.

4. Physical Aggression. Every human being has a basic right to be secure in his person. This right must be especially respected with psychiatric in-patients who are in a sub-cultural environment where usually one or more of their fellow ward mates may have a high probability of assaultive behavior.

   The effects of unconsequated aggression on a psychiatric ward are devastating, resulting in countertherapeutic fear in clients and the complete disruption of the therapeutic community. The exact restitution procedure for acts of physical assault depends to a large extent on the degree of self-control the individual exhibits during the episode. If the individual is clearly out of control, the limited restraint procedure discussed in the next section are used first followed by the restitution procedure. In any case, the assaultive individual is demoted to a lower privilege level. The restitution procedure involves an apology to the individual involved and all other individuals in the immediate environment. The assaultive individual is also required to pay a token fine to the wronged individual in addition to the standard fine for acts of physical violence. The amount of this fine is determined by negotiation between the parties involved.

5. Stealing. Every human being has a basic right to be secure in his justly acquired property. Theft of another client's personal property results in the guilty party apologizing to the entire ward for his breach of their security, the payment of a fine to the individual wronged in addition to the standard fine for theft and the loss of a privilege level. The amount of the individual fine is a matter of negotiation between the parties involved.

In cases where a just negotiated settlement cannot be reached between the parties involved the issue is resolved by a Grievance Committee of two clients, one chosen by each party and one staff member.

III. LIMITED RESTRAINT. This procedure is reserved for individuals who are clearly out of control exhibiting behavior which is an immediate threat to themselves, others or property. The expressed aim of this technique is to restrain the individual until he demonstrates self-control. The amount of counterforce used to restrain such individuals will be in direct proportion to the force they display. The specific technique will involve placing the individual on the floor and restraining him at the wrists, ankles and if necessary, the knees and shoulder, telling him he will be released immediately after he stops all struggle and can slowly count to ten in order to demonstrate that he is in control. Only after the individual has regained control is a time out or restitution procedure initiated. The rationale of this technique is to demonstrate to the individual that regardless of his level of disturbance, he can regain and is responsible for self-control. Like the restitution procedure, the individual will be required to answer three questions: What did you do? What happens when you do that? What else could you have done? If the individual cannot answer these questions, he will be told the answers and required to repeat them.

This procedure is less restrictive than the traditional methods used to deal with extreme loss of control such as : long-term seclusion or chemical restraint. Long term here refers to any period of time after which the individual had demonstrated he is again in self-control. This procedure like all other positive and negative client-staff interventions is documented stating the setting, the behavior and the consequence.

BEHAVIORAL CONTRACTS

Behavioral contracting is a method of shaping self-control. The primary purpose of contracting is to teach the ability to delay reinforcement, to maintain social committments, and to develop in the individual the ability to control his behavior without external control. Behavioral contracting is used at all levels of the program. At the lower levels, the contracts are verbal, relate to simple behaviors and be of a short duration. At levels III and IV behavioral contractions are both verbal and written. At these higher levels, contracting is a primary therapeutic approach. These individuals are no longer reinforced immediately with tokens but are required to itemize their problem behavior and make formal contracts to overcome them. This contracting process takes place in both group and individual therapy sessions.

EMPLOYMENT SKILLS

Both the privilege level system and the token economy are directed toward the establishment of adult adjustment skills. An essential adult adjustment skill is self-support through employment. While there are excellent client work programs available at many facilities, they may not be applicable to many clients who lack the motivation to work or are unable to maintain periods of work of a month or more before they receive their pay. This is particularly the case with regressed patients. In behavioral terms, the regressed patient requires immediate reinforcement to re-establish and maintain behaviors that have dropped out of his repertoire. With a regressed client the amount and difficulty of a task must be small while reinforcement must be immediate.

The aim of this part of the program, as it involves regressed patients, is to shape employment skills gradually to the point where the individual is capable of long periods of sustained work with delayed reinforcement. In order to accomplish this, the following step-by-step procedure is used:

1. The client is approved for employment under the client work program.
2. An exact job description is written for the client specifying the location, the task, and the time allowed to complete the task.
   (a) The location of the task may be initially on the client's ward and gradually be moved outside the ward and finally off the unit.

   (b) The tasks are initially simple and may relate primarily to housekeeping duties. Gradually, they are increased to the point where the individual has a standard job.

   (c) The time allowed for the task depends to a large extent on the functional level of the client. Regressed clients could be started off working for between 15 to 60 minutes a day and gradually increased in time to four hours a day.

3. In addition to the required minimum wage, the client will also receive tokens for the time he spends working. The payment of tokens solves the fundamental requirement of instituting work skills in regressed clients by providing them with immediate contingent reinforcement.

4. In addition to the standard documentation required for client work programs, work assignments will

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also be documented with a behavioral prescription noting the target behavior, the consequence of the target behavior and an evaluation of quality of the performance of work behavior.
(a) Behavior Prescription for work assignments on ward:

NAME: PRIVILEGE LEVEL:

Target Behavior: Client will ______________
____

Time of work assignment: 3:00 PM to 3:30 PM
Consequences: Wages at $1.30 per hr. plus
10¢ in tokens for each 10 minutes
spent on job. *Start: 3 PM 4-16-76
Stop: 3:30 PM 4-16-76
Tokens: 30¢

*Side two of card--documenting the daily START and STOP time of a work assignment.

Clients other than regressed individuals many times also benefit from highly structured work situations. Such clients include the depressed, the physically aggressive, and those that fear close interpersonal contacts. These individuals tend to profit best from a structured work environment where this on-going behavior can be reinforced in a planned and an integrated way. To meet these client's needs, a work assignment must be an integrated and supervised part of the treatment plan. This supervision and consistency of treatment approach can only be insured on the client's home ward. As with regressed clients, these individuals will be slowly faded off the ward into standard client work assignments.

Following is an example of work shaping which is used by Ayllen and Azrin at the Anna State Hospital in California.

PROMPTING-SHAPING OF WORK ASSIGNMENTS

BEHAVIOURAL STEP	VERBAL PROMPT ASSOCIATED WITH THE BEHAVIOURAL STEP	NO.OF TOKENS GIVEN FOR EACH BEHAVIOURAL STEP
1. Walked with attendant on ward.	Come with me.	10
2. Walked with attendant outside ward.	Come with me outside.	10
3. Walked with attendant to laundry.	Come with me to the laundry.	10
4. Worked for 5 min. in laundry. Attendant present.	Patient instructed to do whatever specific job needed.	
5. Worked 15 mins. in laundry. Attendant present.	" " " "	10
6. Worked 30 mins. in laundry. Attendant present.	" " " "	10
7. Worked 45 mins. in laundry. Attendant present.	" " " "	10
8. Worked 1 hr. in laundry. Attendant present.	" " " "	20
9. Worked 3 hrs. in laundry. Attendant occasionally absent.	" " " "	40
10. Worked 6 hrs. in laundry. Attendant occasionally absent.	Would you like to work 6 hrs. a day in the laundry?	80
11. Worked for 6 hrs. in laundry. Attendant absent.	Would you like to work 6 hrs. a day at the laundry?	80
12. Worked for 6 hrs. without being prompted individually. Attendant absent.	No prompt.	80

Each behavioral step consisted of two parts. First, a specific prompt was given to the patient to perform that specific behavioral step. The second aspect of each behavioral step was the delivery of tokens when the patient has successfully followed the attendant's prompt or instruction. The number of tokens progressively increased as the behavioral step became more complex. The patients who were earning the least tokens for on-ward work were the ones who went through the behavioral progression most quickly. An explanation of these individual differences can be sought in terms of the existence of competing reinforcers. It may very well be then, that the ease with which a patient goes through the behavioral progression for a new response depends on how much reinforcement is being given for other behaviors.

THERAPY AND ADULT ADJUSTMENT SKILL GROUPS

The privilege level system and the Token Economy described up to this point are techniques aimed at helping the clients establish adult adjustment skills. However, a highly structured program is of limited value unless these skills can be maintained after the client leaves the hospital. An emphasis on maintenance is an essential part of any meaningful program and is the primary rationale behind the progression aspect of privileges and responsibility within the therapeutic community. Adjustment to the hospital environment and the remission of acute symptoms are not adequate indications of the success the individual will have in independent living. With chronic clients, release often results in what might be called "cultural shock" followed by a retreat to insanity as an adaptive strategy to deal with overwhelming environmental stress. In behavioral terms, these clients do not have a repertoire of behavior that will result in the community reinforcing them. They are many times uncertain of the occasions on which a given behavior will lead to reinforcement.

One way of maximizing the possibility that such needed behaviors are established is to model the therapeutic community as closely as possible to the external community. A particular advantage of the token economy is that it is a model of the external community.

Both the therapy and the educational experiences of clients in the program outlined above are oriented toward the external community. The decision on what will be taught is based on a simple rule: Will this behavior be reinforced in the outside community? Getting a regressed client to go to the gym, self medicate or work at a hospital job is of little value unless he is also taught how to locate and find transportation to a gym, knows where to get medical assistance and buy drugs, and knows how to look for, get and keep a job after he is released. Likewise, working through or gaining insight into one's depression, hostility or anxiety must be paired with techniques which enable the individual both to control and produce alternatives to these unadaptive behaviors. Insight without action is meaningless. Classes and therapy groups listed below can be helpful in establishing behaviors that will be reinforced in the community.

SKILL CLASSES

Attendance and performance in these classes is established and maintained by tokens and progression through the privilege level system. Generally, the classes are geared to clients in a particular level and are taught by both the attendant and professional staff.

1. PERSONAL/SOCIAL ADJUSTMENT TRAINING:

    (a) Orientation to Employment: Introduction to the nature of work, vacations, applying for jobs and job attitudes.

    (b) Leisure Time and Community Orientation: Use of leisure time, development of hobbies and interests, citizenship, utilizing community resources.

    (c) Money Management: Basics of planning expenditures, making and keeping a budget, use of checking and savings accounts.

    (d) Health and Hygiene: What is good health, maintaining health, systems of the human body, principles of sexual development, First Aid nutrition.

    (e) Personal Appearance: Grooming,body care, clothing and apparel selection.

    (f) Social Relationship Skills: Basic etiquette, basic relationship skills.

    (g) Home Management: House Maintenance, clothing care, meal planning, home safety.

2. CONSUMER SURVIVAL SKILLS: This is a class based on the National Educational Television program on consumer buying skills and on the publications from Consumer Reports.

3. TRANSPORTATION: This class teaches different types of transportation, the cost involved, map reading and specifically how to find and get to different locations.

4. MEDIA USAGE: This class teaches the skills necessary to obtain and use different types of media including television, radio, periodicals, and newspapers. The use of these media is integrated around day to day discussions of current events.

5. G.E.D. STUDY CLASS: This class involves a study and homework lab for the G.E.D. classes offered at the hospital.

6. SELF-MEDICATION CLASS: This class teaches clients the importance of medication, the identification of medication, the purchase of medication, the use of medication and the dangers of medication.

GROUP THERAPY

1. RELAXATION GROUP: The use of Deep Musical Relaxation has been shown in repeated experimental and clinical studies to be useful technique in the reduction of anxiety and environmental stress. All clients are taught this technique and all clients practice it daily.

2. SUPPORTIVE GROUP: This group is the individuals first therapeutic group experience in which basic trust in the group process and some degree of openness to feelings and discussion of problems can be established.

3. SELF-ASSERTION GROUP: Self-assertive training is a technique which teaches the ability to accept and express both positive and negative feelings. This technique emphasizes behavioral analysis, feedback, role-playing and homework.

4. RATIONAL EMOTIVE THERAPY (RET) GROUP: Rational Emotive Therapy is based on the assumption that a large portion of our unadaptive behavior is the result of the irrational verbalizations we say to ourself. RET is a direct and confrontive technique aimed at the establishment of rational self-statements. RET stresses self-responsibility, self-evaluation, role playing, homework and behavioral contracting.

5. SELF-CONTROL GROUP: Self-control is a behavioral technique which teaches the individual to manage his own behavior. The Group will teach both overt and covert behavior modification techniques which the individual can himself use in daily living. Self-control stresses behavioral assessment, self-monitoring, environmental manipulation in terms of cues and consequences, homework and behavioral contracting.

6. BEHAVIORAL CONTRACTING GROUP: Behavior contracting is a technique of behavioral change which stresses the reciprocity of social interactions. The client assumes responsibility for specifying the behavior he wishes to change or estabilish, writing a contract specifying what he will do and negotiating with his therapist or peers as to what they will do as a consequence of his contracted behavior. Enrollment in this group is a requirement of all clients at Levels III & IV. The content of these contracts will directly relate to problems in living which may jeopardize the client's chances at independent living.

7. INDIVIDUAL THERAPY: Individual Therapy is reserved for individuals on Levels III & IV who could benefit from problem oriented individual therapy. Individual Therapy will be time-limited and problem-oriented using Traditional, Behavioral, and Biofeedback Techniques.

STAFF TRAINING

For a program such as the one described in the preceding material to be successful, you must have a well-trained staff who are supportive of the program and consistent in their implementation of the techniques on which the program is based. The primary reason the program must be implemented in the paced step-by-step manner described is to insure that staff members are competent in the techniques and procedures involved. The first step in training the staff is to teach them to define and observe behavior. This is a collective venture in which the treatment team defines each of the discrete behaviors on the daily rating sheet, then observes and rates the clients in their respective dorms.

An agreed definition of behavior and the reliable observation of behavior are the foundations of consistency. Consistency is the most crucial factor in guaranteeing that any behavioral program is successful. After the staff involved can define and observe behavior, daily dorm meetings with the clients are scheduled. These daily dorm meetings further shape the consistency of the staff's observations; i.e., they must explain to the clients what each behavior means and why a given rating was given. After the staff is proficient in defining, observing and giving feedback to clients, a limited number of behavioral interventions are initiated. First, the staff are trained to target a specific behavior that each of their dorm members can perform and select an effective reinforcer for it. The client concerned then receives one token at the daily dorm meeting if his targeted behavior has been performed. The token can be cashed in immediately after the meeting for the tangible reinforcer. Next the techniques of extinction and social reinforcement are added, with the staff once again targeting the behavior--this time reinforcing it or extinguishing it as it occurs. Next, the procedure of time-out is added as a method of dealing with disruptive behavior. In like fashion, each procedure of the program is added, in a step-by-step manner.

From the very beginning of the paced prpgram designed to shape staff skills, daily staff meetings take place in which current problems are discussed and the techniques of behavior modification are taught. The techniques taught apply only to what the staff members are currently doing with the clients. What is taught to the staff is only that which is apt to be reinforced in their current interactions with the clients. Definition of behavior is taught first, followed by observation and so on. This procedure helps to guarantee that each staff member not only "knows" the procedure but can perform it. An additional advantage of this teaching technique is that the staff is reinforced by the progress of the clients as new procedures are added. First, they learn to assess where the clients are during the observation only period (baseline), then learn the effects of feedback alone, then the effects of delayed reinforcement in the daily rating plus token stage and then the effect of social reinforcement, extinction and time-out.

While the program moves at a slow pace at first, as the staff learn the basic principles of learning, their applications, and becomes a cohesive and consistent team, the pace of adding new additions to the program will accelerate. This method of gradually shaping the staff's competency functions to maximize the possibility of the program's success. It is the staff that must apply the contingencies of reinforcement to the clients and if they can consistently do this, the behavioral program will be successful. The laws of behavior apply to any interaction but it is their consistent and planned application that changes behavior in a desirable direction. It takes a dedicated, trained staff to insure realization of the program's therapeutic aims.

Programmed Student Handout 100-6A
Paraprofessional Level
Code 12-76

Texas Department of Mental Health Mental Retardation

The Token Economy

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to to learn. This is called a "frame".

2. After being given an opportunity to learn the bit of information, your are asked a question to see if you were successful in learning it.

3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.

4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

In many institutional settings, a token economy system is more and more becoming a permanent part of the treatment program. The term token economy refers to a system designed to simulate (copy closely) the "economic" conditions that occur outside of the institution.	
In institutions, token economies are designed to _______________"economic" conditions outside of the institution.	**simulate**
In a token economy, the client can "earn" tokens which he can exchange for things he wants. In general, clients earn such tokens by producing desirable behavior.	
In a token economy, the client_______________ tokens which he can _________________ for things he wants.	**earns** **exchange**
The tokens are awarded contingently. This means that they are given only when desirable behavior is displayed and are withheld whenever the behavior displayed is not satisfactory. Clients are then charged tokens for things they value such as snacks, recreational opportunities, cosmetics and the like.	
Tokens are awarded ___________________. That is, they are given only when ________________behavior is displayed, being withheld when behavior is not satisfactory.	**contingently** **desired**
To understand the basic concept behind a token economy system, think about money and its use in your life. Money is a reinforcer (reward) for you and most others in our particular society. It is given to us following specific desirable behaviors, which we call work. Money becomes reinforcing to us because it is associated with the many good things we can exchange it for, such as food, shelter, entertainment or a new car. Similarly, tokens can serve the same functions in a token economy.	

A token reinforcer is an object which, like money, can be exchanged for items or activities of value. Some common token reinforcers are money, trading stamps, bus tokens, gold stars, and tickets. In a token economy, tokens share the same advantages as money in the nation's economy.

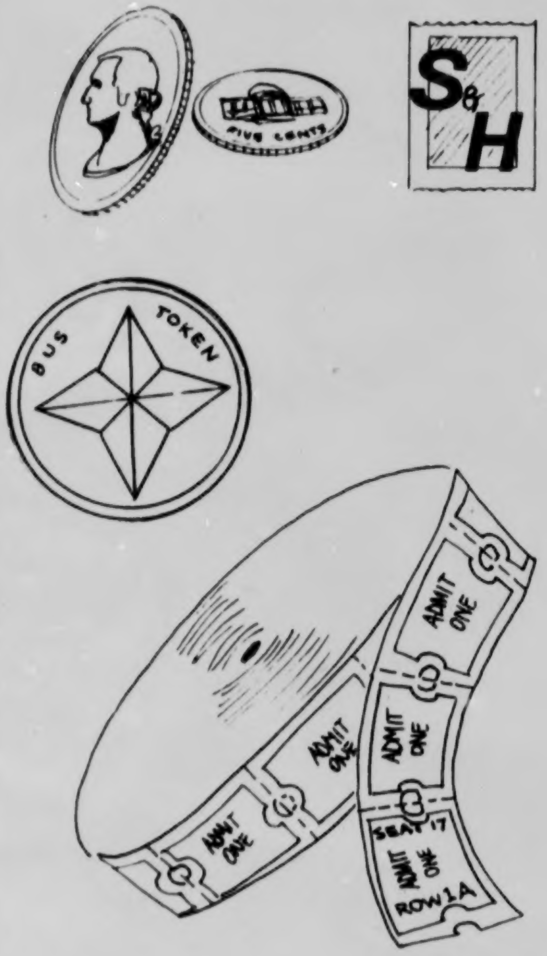

FIVE CENTS
S&H
BUS TOKEN
ADMIT ONE
ADMIT ONE
ADMIT ONE
ADMIT ONE
ADMIT ONE
SEAT 17
ADMIT ONE
ROW 1A

Figure 1. Common Token Reinforcers

By using tokens, the staff can help strengthen desirable behavior in clients by awarding tokens as soon as an improvement is noticed, thus employing the powerful immediacy component of the reinforcement mechanism which we discussed during an earlier class. This means that reward is given at the time it is earned.

Awarding tokens immediately upon noticing an improvement in behavior helps
_________________ the desirable behavior.

strengthen

The token economy is nothing more than a set of procedures for systematically using tokens to reinforce (strengthen or increase) desired behavior. Systematically means to do something according to a plan, and in an orderly and regular way.

The basic components (parts) of a token economy include the following:

1. Availability of tokens which can be easily and quickly given.

2. Availability of "backup" reinforcers (items or activities for the clients in exchange for their tokens) that the clients enjoy and prefer.

3. Rules specifying which specific behaviors earn precisely how many tokens.

4. Rules specifying how tokens can be spent within the token economy.

5. Procedures for getting the program started (e.g., make the tokens themselves "valuable" by pairing them with backup reinforcers).

6. Plans for making the reinforcement (reward) as effective or useful as possible, so that as improvement occurs, the gains displayed by the client will be maintained.

7. Procedures for moving the client off the token system while maintaining the behavioral gains.

Complete the following review:

1. A token economy should have tokens available which can be ______________ and _____________ given.	**easily, quickly**
2. A token economy should have available ____________ reinforcers which are suited to the preferences of the clients.	**backup**
3. A token economy should specify which ______________ earn precisely how many tokens.	**behaviors**
4. A token economy should spell out how tokens can be _________________.	**spent**
5. In starting a token economy, you need to make the tokens themselves valuable by ___________ them with backup reinforcers.	**pairing**

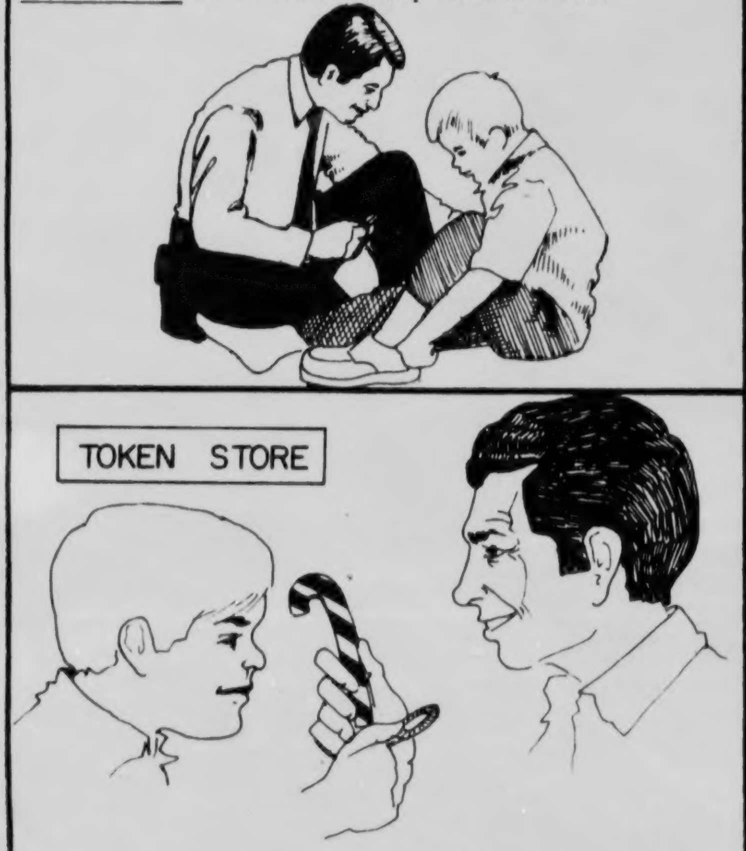


Figure 2. How The Token Economy Works

In a token economy, the basic procedural unit consists of a client's behavior, which is followed by a token reinforcer, which is then exchanged for a "backup" reinforcer, as shown in Figure 2.

What is the basic procedural unit in a token economy? ______________________________.

the client's behavior

In deciding on the target behaviors which are to be modified by the general token plan, it is a good idea to ask for input from the entire staff. In this process, two groups of behaviors should be given careful consideration. The first category includes behaviors which are to be strengthened, such as self-care, social skills, and work skills. The second category includes behaviors which are to be weakened, such as bizarre behaviors, assaultive behaviors, and self mutilation.

In deciding on what target behaviors you are going to modify in a token economy setting you consider these categories of behavior:

I. ____

____.

II. ____

____.

I. behaviors to be strengthened

II. behaviors to be weakened

In developing a list of target behaviors, it is very helpful to have the entire staff carefully observe and list the client's undesirable behaviors.

When you are developing your list of target behaviors, who should you have list a client's undesirable behavior? ______________

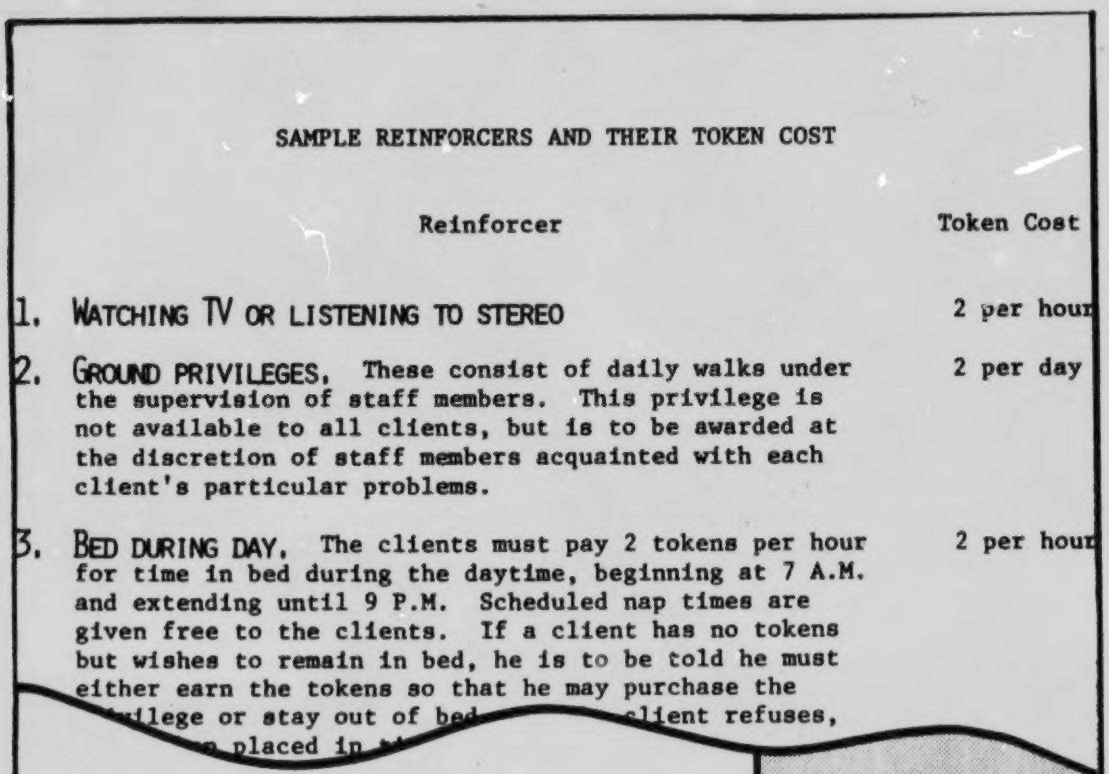
____________________.

the entire staff

To illustrate the point made above, appropriate grooming behavior must be developed before an individual can be reinforced for going on job interviews; low levels of social interaction need to be increased before the staff becomes concerned with a client's assumption of some degree of responsibility for maintenance of his living area must be developed before he is sent to a part-time job in the community.

Once the staff has selected the target behaviors, they must be further specified regarding the steps required for completing a change of the behavior in question. These specifications of the behaviors needing change are usually made available to the staff and patients in the form of a token economy manual.	
What would you expect to find in a token economy manual? ______________________________ ____________________________.	specification of target behaviors
Some Hints for Specifying Target Behavior 1. Specify the quality as well as the quantity of behavior required. 2. Make the "chunks" of behavior which will earn reinforcers gradually larger. 3. Set daily (and later weekly) individualized target behavior requirements. 4. Set client goals in such a manner as to equalize the opportunity to earn tokens. This means the worker should adjust the token economy requirements to the client and make it possible to reinforce small steps of improvement. 5. Always keep the client informed about the goals set for them.	
Complete the following review.	
1. In specifying target behavior, you specify the _____________ as well as the ____________ of behavior required.	1. quantity quality
2. In a token economy, you make the chunks of behavior which will ________________ reinforcers gradually ________________.	2. earn larger
3. Early in a token economy you set individual target behavior goals on a ______________ basis.	3. daily
4. You should adjust requirements to the client in a token economy, making it possible to reinforce _______________ steps of improvement.	4. small
5. It is important to keep the client informed concerning the ______________ set for him.	5. goals

The earning to tokens must be realistic in relation to the cost of specific reinforcers. Keep in mind that the token values assigned to client behaviors msut be coordinated (equalized) with the assigned prices of specific reinforcers. This is because to keep a token economy in balance, income has to equal expenditures.	
To keep a token economy in balance, __________ has to equal ________________.	income expenditures
A good way to start assigning token values involves assigning the lowest values possible to the set of specified target behaviors (taking care to give more tokens for behaviors which are considered to be more important or to require more work). For example, grooming, exercise, and social activities would probably be given more weight than getting up on time or going to bed on time.	
In a token economy, you should give more tokens for behaviors which ____________________ ________________ and ______________________.	are more important; require more work
In setting up a token economy, always identify as many reinforcers as possible since what is reinforcing for one person may not be so to another. Additionally, the motivation to earn tokens is directly related to the attractiveness of the items that the client can purchase with the earned tokens.	
What is reinforcing for one person can be considered to be reinforcing for another. _____True _____False	False
Motivation to earn tokens is in direct relation to the attractiveness of items that the client can purchase. _____True _____False	True



SAMPLE REINFORCERS AND THEIR TOKEN COST

	Reinforcer	Token Cost
1.	WATCHING TV OR LISTENING TO STEREO	2 per hour
2.	GROUND PRIVILEGES. These consist of daily walks under the supervision of staff members. This privilege is not available to all clients, but is to be awarded at the discretion of staff members acquainted with each client's particular problems.	2 per day
3.	BED DURING DAY. The clients must pay 2 tokens per hour for time in bed during the daytime, beginning at 7 A.M. and extending until 9 P.M. Scheduled nap times are given free to the clients. If a client has no tokens but wishes to remain in bed, he is to be told he must either earn the tokens so that he may purchase the ilege or stay out of bed client refuses, placed in	2 per hour

Figure 3. Detail Needed When Specifying Reinforcers

The more tokens that a client desires so as to buy privileges, the more tokens he will try to earn through changing his behavior in the desired direction. Figure 3 illustrates the kind of detail that is necessary in specifying reinforcers. Note that it is also important to specify when they are available and for how long, so as to avoid any misunderstanding.

As we said earlier, you must coordinate prices (cost of the reinforcer) with wages (tokens earned) so that most of the tokens a client earns in one week will be spent in that week. This will require that you set the prices so that most of the privileges within the token economy can be attained by the client without undue difficulty.

Most of the ____________ earned by a client in one week should be __________ in that week.

tokens
spent

You should set your prices in a token economy so that most of the ____________ can be obtained by the client without great difficulty.	privileges
In a token economy, it is helpful to be flexible, to "hang loose" and wait to see which activities are in greatest demand. When demand for a particular reinforcer is high, increase the price. When demand is low, decrease the price. This is what happens in the natural market place.	
In a token economy, when demand for a particular reinforcer is high you ______________ the price; when demand is low, you ______________ the price.	increase decrease

There are many things that you can use as tokens. A few of the possibilities include:

Marks on a card
Numbers on a card
Paper stars
Poker chips
Pennies

A counter with a light flash
Tickets
Punches on a card
Plastic chips

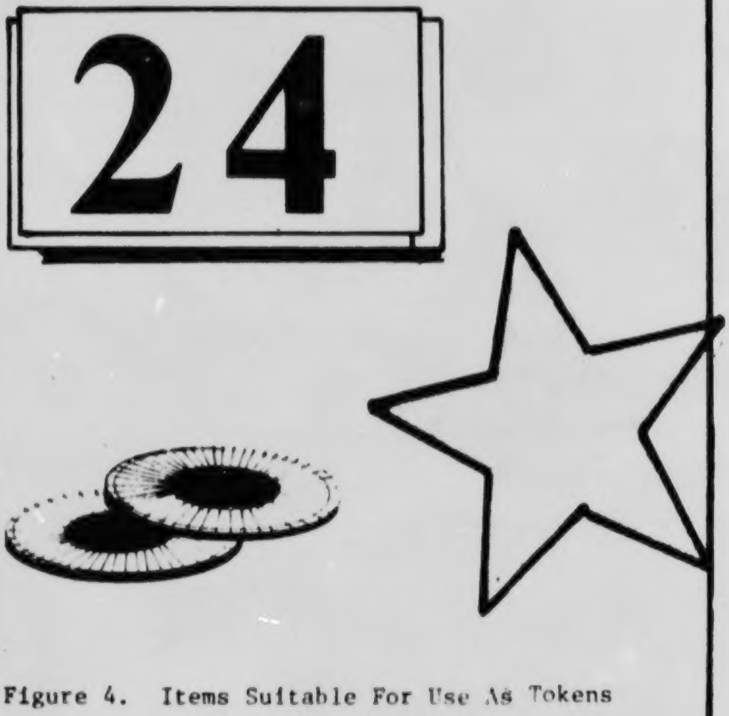


Figure 4. Items Suitable For Use As Tokens

In selecting tokens, keep in mind the ease and convenience of use by the staff. When you have a few clients in a program, plastic chips may do the job. However, with twenty-five clients, the process of passing out plastic tokens might be cumbersome or awkward. In such cases, special punches or marks on a card which is kept by the client might be more convenient.

When selecting tokens, what should you keep in mind? ______________________________ ______________________.

ease and convenience of use by the staff

A token economy is not a fixed system. It is an evolving (changing) system which must be kept in balance according to the available money (unspent tokens), "customer" preferences (demand), and the stage of each client's progress. If a client accumulates too many unspent tokens, there is no need for him to work to earn more tokens. When this kind of hoarding begins to happen, start looking for reinforcers for which the clients will be willing to spend their hoarded tokens. If this should happen with a large group of clients, you might have to consider confiscating (taking back) all tokens unspent by, for example, Friday afternoon. Then you would start over for the next week with wages or higher prices.

What can you do to combat hoarding by the clients of their tokens?

1. ____ ____________________.

2. ____ ____________________.

1. look for reinforcers for which they will spend their tokens
2. confiscate (take back) unspent tokens

You may need to make another kind of adjustment, which is based on records of token expenditures. If some items are really "big sellers" and in demand, you would increase the prices of these items on your next "product" list. You would eliminate those items not purchased by the clients or reduce their price. By reacting to the client's preferences in selecting reinforcers and

pricing them, your system will remain more responsive.	
You have a lot of items on the shelves of your token economy store which have not "moved". What can you do. 1. ______________________________ 2. ______________________________	1. reduce the price 2. confiscate unspent tokens
A third program adjustment you may have to make concerns the ratio of work to tokens. In the early stages of a program, you should make it fairly easy for the client to earn tokens for small amounts of work. However, as skills develop and work habits improve, the amount of work required should be gradually increased so that the client's are working longer for fewer tokens.	
As skills develop and work habits improve among your token economy clients, you should _________________ the amount of work they have to put forth to earn tokens.	increase
In the beginning of a program, some clients should find it difficult to earn tokens for only small amounts of work. _____True _____False	False
To be effective, a token economy should be a flexible system. ______True _____False	True
Many inappropriate behaviors can be weakened by requiring the clients in the token economy to pay a fine, or a charge, each time the inappropriate behavior occurs. Figure 5 sets forth specification of a number of behaviors for which charges have been made in some token economies.	

SELECTED BEHAVIORS SUBJECT TO CHARGES

Behavior	Token Charge
1. INAPPROPRIATE VERBAL BEHAVIOR.	1 per occurrence
a. Talking to oneself or to an imaginary figure.	
b. Screaming.	
c. Sexual talk or the excessive use of profanity.	
d. Rambling on from one topic of conversation to another with no apparent direction to the conversation.	
e. Disrupting a conversation between two people by barging in without being invited.	
f. Talking back to staff members, being generally uncooperative, disrespectful, and rude.	
g. Constant complaints about physical problems, token system, staff members, etc.	
h. Repetitious questions.	
2. INAPPROPRIATE NON-VERBAL BEHAVIOR.	
a. Leaving unit without permission.	10
b. Fighting (physical) or striking another client or staff member.	10
c. Touching members of the opposite sex for erotic as opposed to affectional purposes.	5
d. Compulsive behaviors such as excessive hand-washing, cleaning, etc.	5
e. Mutilating token card.	All tokens on card

Figure 5. Sample specifications of inappropriate behavior for which token charges have been made.

Many innappropriate behaviors can be weakened by requiring the clients in the token economy to pay a fine, or a charge, each time the inappropriate behavior occurs. Figure 5 sets forth specification of a number of behaviors for which charges have been made in some token economies.

Hints On Token Use

To make tokens work best, allow for frequent exchange periods during the early days of your program's operation. Then gradually reduce the number of exchange periods, if this is indicated. Keep these points in mind:

1. Always praise first. Before you give out tokens, praise the client first, telling him specifically how he earned the tokens. This procedure will increase the value of the praise and make it easier to later fade out tokens. By using behavior-specific praise, you will also be giving the client maximum information about your expectations for him.

2. Never haggle. Sometimes a client will approach you and say, "If I do this or that, will I earn x number of points?" Clients may also try to bargain over the cost of various items. The best response in these circumstances is to give no response. Ignore such haggling. You must maintain control of the price of items and the amount of work required to earn a token at all times.

3. Always avoid talking about tokens. Do not mention tokens except to give the client wage and price information. Tell the client what he did to earn points or tokens and give them, but do not mention the tokens themselves. This is because talking about earning tokens or points can deteriorate into coaxing, bribing, or threatening those clients who are not working up to your expectations. Tokens are given for meeting a specific performance goal set for the individual client and should not be an occasion for giving attention to those who are not cooperating.

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4. Require a workcheck and corrections. Before giving tokens for completion of an assignment, check each task for accuracy and insist that all mistakes be corrected. Provide any additional instruction that the client needs. This will help in developing the client's expectation of accurate completion of each assignment.	
Quiz	
1. Before giving out tokens for completed work or display of desirable behavior, first ____________ the client.	1. praise
2. Never _____________ with the client or bargain over the cost of items.	2. haggle
3. Do not mention tokens except to give the client ____________ and ________________ information.	3. wage, price
4. Before giving tokens for completion of an assignment, check each task for ____________.	4. accuracy
It is always a good idea to carry out token exchanges with some ceremony. This is because the token exchange provides an opportunity to teach the clients to support each other's progress by applauding for a good performance and otherwise showing mutual appreciation. It is also a chance for the worker to comment on each client's progress before the whole group. You should try to make token exchange time a "big deal", so as to focus attention on each client's progress. _____True _____False	True
With a backup reinforcement system that uses both activities and purchased reinforcers, it may be convenient to sell tickets for activities during the exchange period. Such tickets can then be turned in later at the appropriate time when the activity is being carried on. This way, it is not necessary to have all activity backup rewards going on at the same time. Such an approach serves to give each client something tangible at the conclusion of the exchange period to show for his work, even though he did not choose candy or a toy in exchange for his earned tokens.	

If your token economy uses activities as a reinforcer, you may want to "sell" ____________ which can be redeemed later.	**tickets**
When the exchange period occurs during the work day, it can be a problem getting the clients back to work. Here, the key is to announce that the exchange period is over and then reinforce with praise and tokens all clients who return to work quickly. Ignore the stragglers. Before too long, the clients will get the idea that it pays to get back to work promptly.	
After your token exchange period is over, you should ____________ this and then ____________ with praise and tokens all clients who return to work quickly.	**announce, reinforce**
Individualized Token Plans Up to this point, we have dealt mainly with developing a general token economy plan. We need to keep in mind, however, it may be necessary to individualize our approach - to specify target behaviors for an individual client. Following are several steps which are infolved in developing an individual token plan. a. Specify the behaviors that need to be changed. b. Identify the reinforcers that are available for the individual client. c. Assign token values to the behaviors and reinforcers.	
List the three steps involved in developing an individual token plan. 1. ____ __________. 2. ____ __________. 3. ____ __________.	**a. Specify the behaviors that need to be changed.** **b. Identify the reinforcers that are available for the individual client.** **c. Assign tokens values to the behaviors and reinforcers.**

Four basic contingency arrangements are possible in an individualized token plan:

a. Giving tokens for increases in desired behavior (such as grooming and social interaction).

b. Giving tokens for decreases in undesired behavior (such as harming oneself or talking to self).

c. Taking away tokens for increases in undesired behavior.

d. Taking away tokens for decreases in desired behavior.

Following are two important considerations in using an individual plan approach. First, to help change a resistant individual behavior, an important reinforcer (such as a weekend pass) must be isolated and made available only by improvement in the targeted behavior. Second, individual plans must be reviewed periodically to see if they are working. If they are not working, then they must be changed. Obviously, when the problem behavior targeted by the individual plan is gone, the plan can be shifted so as to focus on other behaviors.

Individual plans should be reviewed periodically to see if they are working.

_____True _____False

True

If the problem behavior targeted by the individual plan has ceased, the plan can be shifted so as to ______________ on other behaviors.

focus

Operating A Token Economy System

As we discussed, the tokens used in a token economy can take a variety of forms, including poker chips, paper money, coins, and marks on paper. Important factors to consider in choosing the form of tokens are: (1) ease in insuring a readily available supply for the staff, (2) control of the possibilities of theft and extortion (blackmail), and (3) the ease by which transaction records can be kept. Given such factors, many facilities have found that an individual token card carried by the client, which is punched by a hole punch carried by the staff, is convenient. With properly designed cards, record keeping can be made an integral (built-in) part of the token award and exchange process.

List three important factors to consider in choosing the form or type of tokens for use in a token economy.

1. ______________________________

____

______________________________.

2. ______________________________

____

______________________________.

3. ______________________________

____

______________________________.

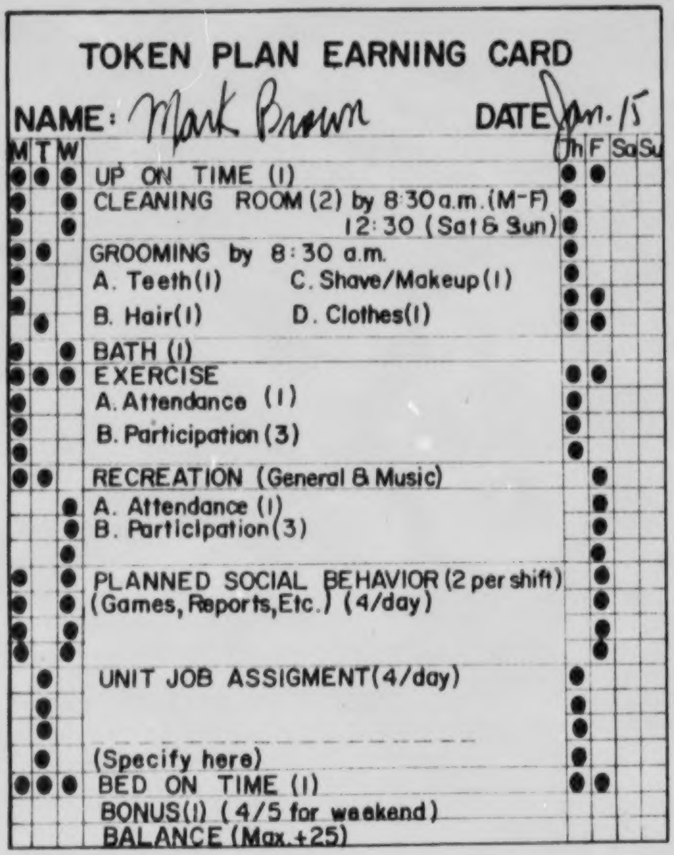
1. Ease in insuring a readily available supply for the staff.

2. Control of the possibilities of theft and extortion.

3. The ease by which transaction records can be kept.

A Possible Token Economy System

Some facilities have found that the following system is a simple, effective way to meet record keeping needs in a token economy. In the program, at the beginning of each week, each client is given three token cards: an Earning Card, a Spending Card, and an Individual Plan Card. The staff members carry hole punchers which they use to award tokens by punching the Earning Card. Each staff member carries a different shape hole puncher, so that it is possible to determine precisely who awarded the tokens. The cards are over printed with the target behaviors, making it possible to identify day by day what the client did to earn the tokens.



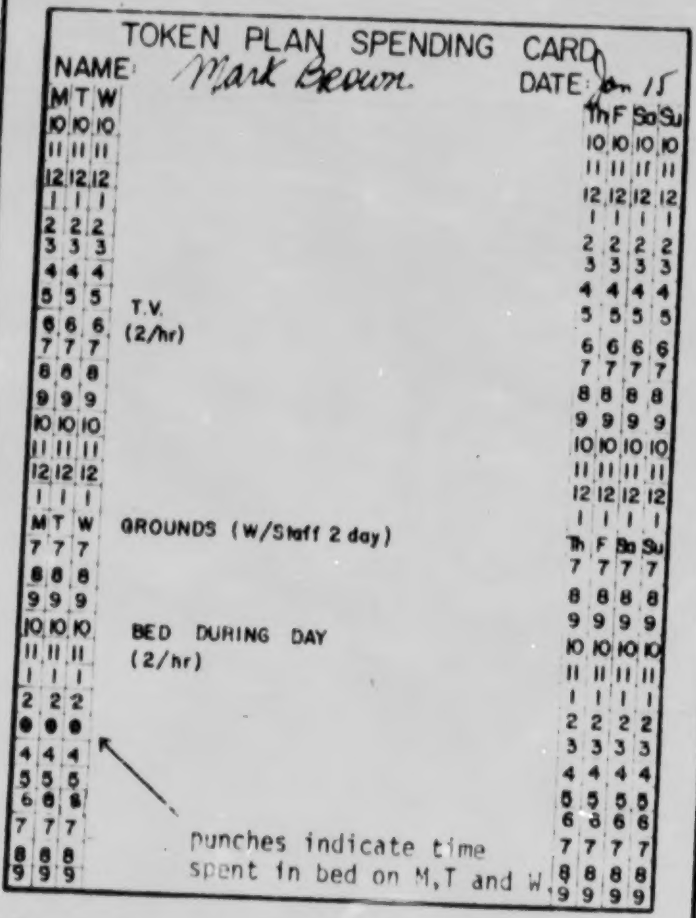
TOKEN PLAN EARNING CARD

NAME: Mark Brown DATE Jan. 15

M	T	W		Th	F	Sa	Su
●	●	●	UP ON TIME (1)	●	●		
●		●	CLEANING ROOM (2) by 8:30 a.m. (M-F)	●			
●		●	12:30 (Sat & Sun)	●			
●	●		GROOMING by 8:30 a.m.	●			
●			A. Teeth(1) C. Shave/Makeup(1)	●			
●				●	●		
	●		B. Hair(1) D. Clothes(1)	●	●		
●		●	BATH (1)				
●	●	●	EXERCISE	●	●		
●			A. Attendance (1)	●			
●			B. Participation (3)	●			
●				●			
●	●		RECREATION (General & Music)		●		
		●	A. Attendance (1)		●		
		●	B. Participation (3)		●		
		●			●		
●		●	PLANNED SOCIAL BEHAVIOR (2 per shift)		●		
●		●	(Games, Reports, Etc.) (4/day)		●		
●		●			●		
●		●			●		
	●		UNIT JOB ASSIGMENT(4/day)	●			
	●			●			
	●			●			
	●		(Specify here)	●			
●	●	●	BED ON TIME (1)	●	●		
			BONUS(1) (4/5 for weekend)				
			BALANCE (Max.+25)				

Figure 6. Earning Card

Figure 6 shows an Earning Card with punches on it. You can see that Mark Brown earned five tokens during the week for getting up on time. This token earning activity is indicated by the five holes which are punched into the card on Monday, Tuesday, Wednesday, Thursday and Friday next to the Up on Time category. Further down on the card, you can see that Mark also has earned twelve tokens for Planned Social Behavior.



TOKEN PLAN SPENDING CARD

NAME: Mark Brown DATE: Jan 15

M	T	W	Th	F	Sa	Su
10	10	10	10	10	10	10
11	11	11	11	11	11	11
12	12	12	12	12	12	12
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9
10	10	10	10	10	10	10
11	11	11	11	11	11	11
12	12	12	12	12	12	12
1	1	1	1	1	1	1

T.V.
(2/hr)

GROUNDS (W/Staff 2 day)

M	T	W	Th	F	Sa	Su
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9
10	10	10	10	10	10	10
11	11	11	11	11	11	11
1	1	1	1	1	1	1
2	2	2	2	2	2	2
●	●	●	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

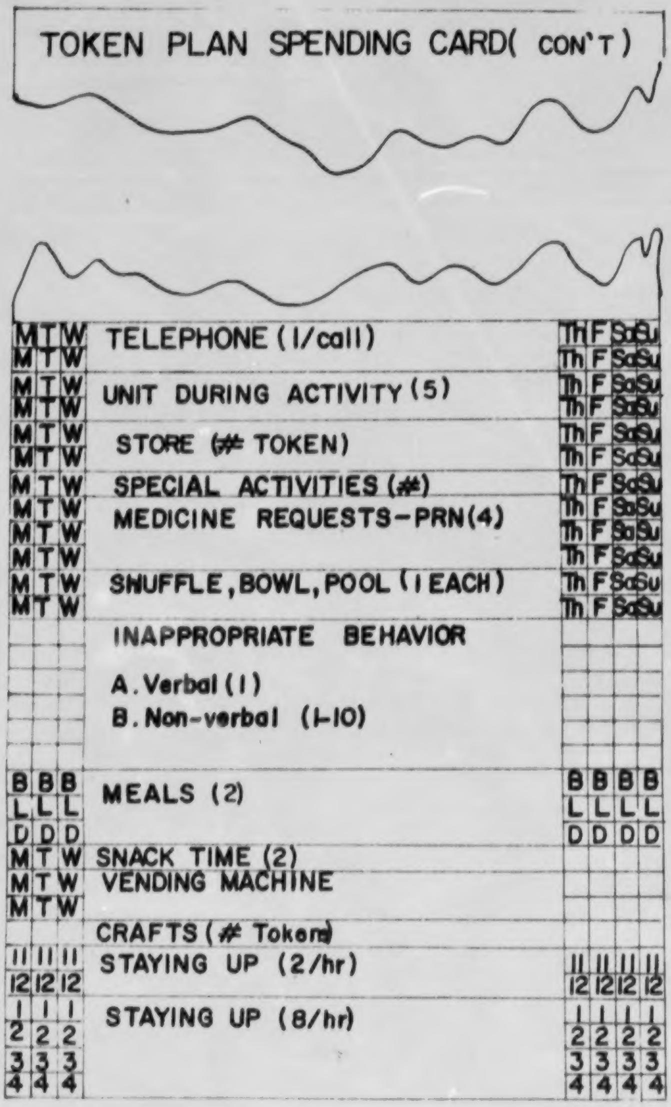
BED DURING DAY
(2/hr)

punches indicate time spent in bed on M,T and W.

a

Figure 7. Spending Card

430



TOKEN PLAN SPENDING CARD(CON'T)

M T W M T W	TELEPHONE (1/call)	Th F Sa Su Th F Sa Su
M T W M T W	UNIT DURING ACTIVITY (5)	Th F Sa Su Th F Sa Su
M T W M T W	STORE (# TOKEN)	Th F Sa Su Th F Sa Su
M T W	SPECIAL ACTIVITIES (#)	Th F Sa Su
M T W M T W M T W	MEDICINE REQUESTS-PRN(4)	Th F Sa Su Th F Sa Su Th F Sa Su
M T W M T W	SHUFFLE, BOWL, POOL (1 EACH)	Th F Sa Su Th F Sa Su
	INAPPROPRIATE BEHAVIOR A. Verbal (1) B. Non-verbal (1-10)	
B B B L L L D D D	MEALS (2)	B B B B L L L L D D D D
M T W	SNACK TIME (2)	
M T W M T W	VENDING MACHINE	
	CRAFTS (# Tokens)	
11 11 11 12 12 12	STAYING UP (2/hr)	11 11 11 11 12 12 12 12
1 1 1 2 2 2 3 3 3 4 4 4	STAYING UP (8/hr)	1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4

Figure 8. Spending Card Showing A Client's Spending Activity

Figure 7 and 8 shows the Spending Card. The privileges which can be purchased by the client with tokens are listed in the middle of the card. The days of the week are specified on the edges of the card. Each privilege shown can be purchased on a daily basis. As you can see, spending activity is indicated by punching a hole on the time of day for some activities and just for the day of the week on others. The Spending Card permits the staff to keep track of all spending activity during the week. For example, as Figure 7 shows, Mark Brown spent an hour in bed during the day on Monday, Tuesday, and Wednesday at 3:00 P.M. each day.

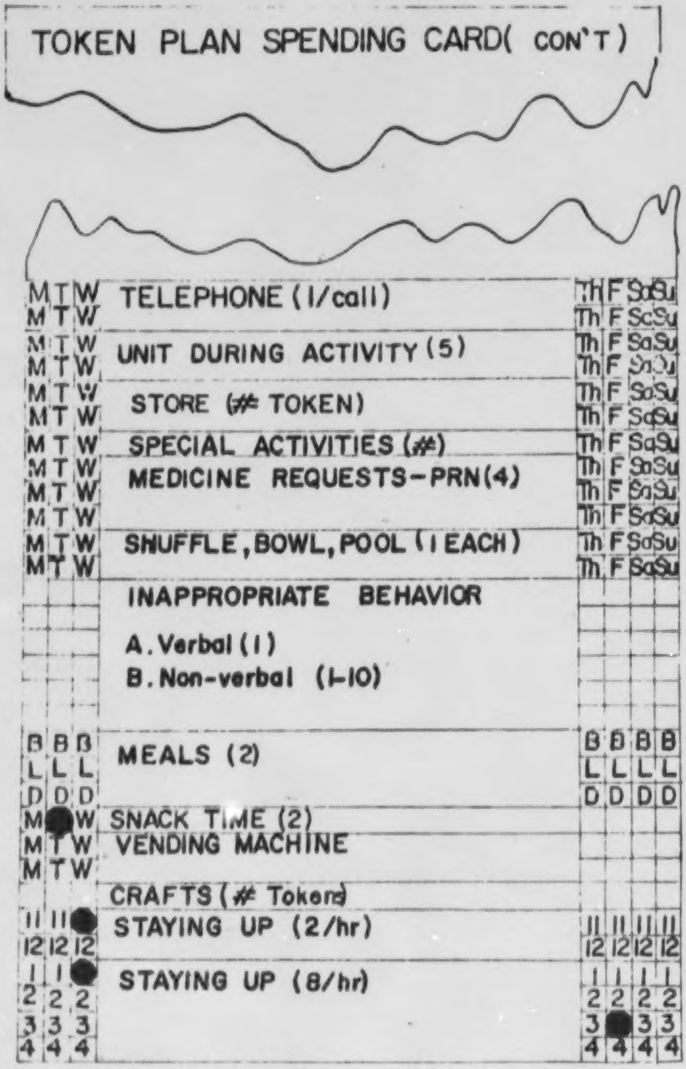
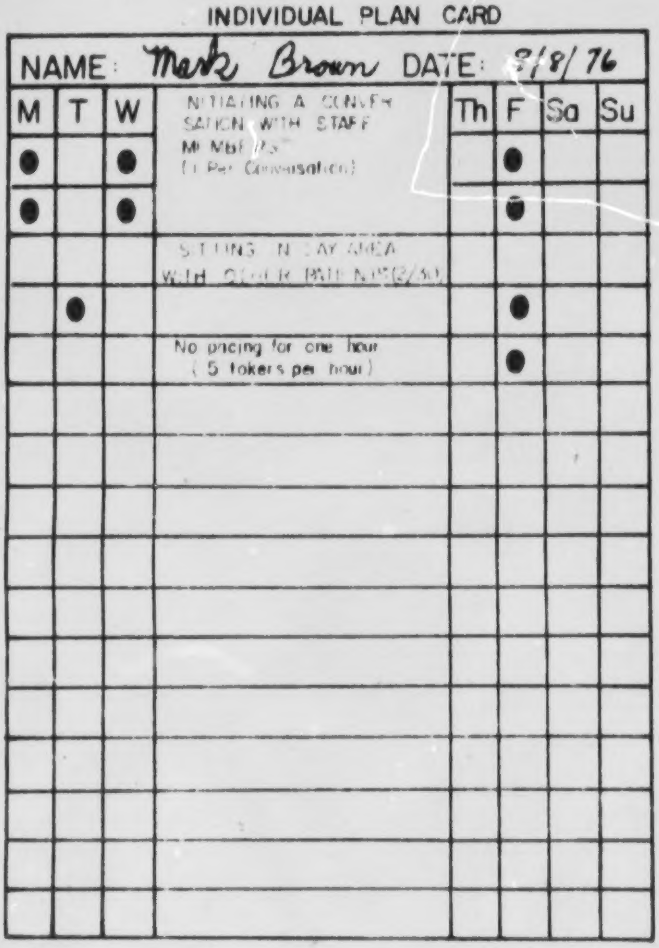

TOKEN PLAN SPENDING CARD(CON'T)
M T W
Th F Sa Su
TELEPHONE (1/call)
UNIT DURING ACTIVITY (5)
STORE (# TOKEN)
SPECIAL ACTIVITIES (#)
MEDICINE REQUESTS-PRN(4)
SHUFFLE, BOWL, POOL (1 EACH)
INAPPROPRIATE BEHAVIOR
A. Verbal (1)
B. Non-verbal (1-10)
B L D
MEALS (2)
SNACK TIME (2)
VENDING MACHINE
CRAFTS (# Token)
11 12
STAYING UP (2/hr)
1 2 3 4
STAYING UP (8/hr)

Figure 9. Spending Card Showing Deductions

All tokens that are spent must be deducted from the client's earnings as reflected on the earlier card we discussed. This is done by circling all of the tokens that are spent. For example, as you see from Figure 7, if two tokens are spent on Monday at 3:00 P.M. for Bed During Day, the staff member would punch one hole on the Spending Card next to Bed During Day at 3:00 P.M. and then circle two tokens on Card 1 (the Earning Card) to indicate that they have been spent. The circled tokens cannot be used again by the client to purchase other privileges.



INDIVIDUAL PLAN CARD

NAME: Mark Brown DATE: 8/8/76

M	T	W		Th	F	Sa	Su
●		●	INITIATING A CONVERSATION WITH STAFF MEMBERS (1 Per Conversation)		●		
●		●			●		
			SITTING IN DAY AREA WITH OTHER PATIENTS (2/30)				
	●				●		
			No pacing for one hour (5 tokens per hour)		●		

Figure 10. Individual Plan

The token card shown as Figure 10 is used as the client's individual plan. As you can see, this card is basically an earning card since clients are reinforced with tokens on this card for carrying out their individual behavior plan. Tokens are punched on this card in the same way as they are punched on the other cards. The card in Figure 10 shows Mark Brown's individual earning card punched with tokens earned for engaging in the behaviors specified on the card. In this case, Mark earned 6 tokens for starting a conversation with staff members, 2 tokens on Monday, 2 tokens on Wednesday, and 2 tokens on Friday. He also earned 4 tokens for sitting with other clients and 5 more tokens for not pacing.

A very important factor in a client's individual treatment plan concerns the criterion (standards) of success for any particular targeted behavior. As we indicated earlier, each target behavior has a criterion level at which it is no longer considered a problem. A weekly data summary, which can be prepared, will allow the staff to use the client's performance on a number of specific behaviors in making up the treatment plan for the following week. If the behavior on the individual plan has reached the criterion level, then the treatment plan can be revised to focus on other problem behaviors. This arrangement helps keep the behavior modification program on target and responsive.

What is the principal advantage of a weekly data summary?

A weekly data summary allows the staff to use the client's performance to make up the treatment plan for the following week.

Eventually, the clients participating in a token economy will have to be terminated and returned to a more natural environment where praise, success, and activities are used to maintain motivation, instead of tokens. You can implement a number of procedures during a token program which will help facilitate maintenance of gains when the client's participation in the program ends. These include: fading, intermittent reinforcement, transfer of reinforcement controls and client self-recording.	
Fading. If the token system is gradually faded out after desired behavioral gains have been achieved, the desirable behavior is more likely to persist. The number of points given each day for specific behaviors can be gradually reduced to zero. A reasonable rule to follow is to reduce the tokens given out by 5% each day. Also, the frequency of exchanges for backup reinforcers can be reduced and the kinds of backup reinforcers available can be gradually shifted so as to include primarily activities which are readily available, rather than "store" items.	
In fading out a token economy system, you should reduce the tokens given out by about ________ each __________.	5%, day
Intermittent reinforcement. We know from our earlier discussions that behavior which is intermittently reinforced is more resistant to extinction. By using the procedures described earlier to slowly shift to increasingly longer intermittent reinforcement schedules, we can increase the likelihood of maintaining the desired behavior.	
By using longer intermittent reinforcement, we can ____________ the likelihood of maintaining desired behavior.	increase
Transfer of reinforcement controls. Such reinforcers as praise, attention, task completion and success are apt to become more effective if, in the token economy, they are systematically paired with the giving of tokens, and slowly allowed to stand more and more on their own.	

You should systematically pair such inforcers as ____________, ____________, ____________ and ____________ with the giving of tokens.

praise, attention success, task completion

Self-recording. If the client is gradually trained to keep accurate records of his own progress, this self-monitoring can provide feedback information which in turn can help reinforce the client's progress.

Feedback provided from ____________ of an individual's progress can be reinforcing.

self-recording

Summary

In this handout, our main concern has been with a discussion of the concepts involved in establishing a token economy. We noted that in a token economy, we use tokens much like we use money in our natural economy. That is, tokens are given following desirable behavior and can be spent for various desired privileges and store items. We also noted that tokens are valuable in an institutional setting for (1) bridging the time gap between display of the improved behavior and presentation of the reinforcers, (2) in serving as reminders to the client of the behaviors he should be working to improve, and (3) in allowing for a variety of back-up reinforcers. The procedures for setting up a general token economy that we discussed involved:

1. Identification of possible target behaviors.
2. Selection of actual target behaviors.
3. Detailed specification of target behaviors.
4. Assignment of specific token values to particular target behaviors.

5. Identification and specification of reinforcers to be used.

6. Determining prices for the reinforcers.

7. Charging for inappropriate behavior displayed.

8. Producing a token economy manual for use by clients and staff.

We also discussed a number of procedures for the operation of a token economy once it is set up. These include:

1. Taking steps to make the tokens valuable at the start by pairing them with valued backup reinforcers.

2. Using behavior-specific praise before giving tokens to the client.

3. Avoiding haggling or talking about tokens with the clients.

4. Requiring a workcheck and correction of errors before giving tokens to a client for task performance.

5. Making the exchange times important group events for the clients.

In our discussion we came to see how the use of cards and punches in a token system has many advantages. That is, the tokens are readily available, theft and extortion can be controlled, and record keeping is greatly facilitated. In the system we discussed three cards which were used. The Earning Card was used to specify how tokens can be earned, with the punches on the card indicating exactly what is earned each day. The Spending Card is used to specify how tokens can be spent, with the punches on this card indicating the spending choices and when they occur. The Individual Plan Card is used to specify how certain reinforcers can be earned by the client meeting individually specified objectives. We saw that the use of a computer in analyzing and reporting on the data in a token system can greatly facilitate revision of treatment plans and document patient progress, making treatment more responsive and timely.

Student Quiz 100-6A
Code 12-76
Paraprofessional Level

Multiple Choice Items

Circle the best answer or answers to each of the following:

1. Which of the following can be used as a token reinforcer?

   a. money
   b. trading stamps
   c. gold star
   d. all of the above

2. An important advantage of tokens in a behavior modification program is that they

   a. can eliminate the delay between the occurrence of a desirable behavior and its reinforcement
   b. always maintain their reinforcement properties
   c. require less effort to use than other types of reinforcers
   d. none of the above

3. Which of the following factors should be considered when specifying target behavior to be dealt with in a token economy

   a. the need to specify quantity as well as quality of behavior desired
   b. the need to make the "chunks" of behavior which will earn reinforcement gradually larger
   c. the need to set daily (and later weekly) individualized target behavior requirements.
   d. all of the above

4. Use of a token card and hole puncher is an advantage to the staff. Which two of the following factors are an advantage to the staff?

   a. Clients like the idea of using a card because they can show off their progress on the token system to other clients, friends, and relatives.
   b. The staff can readily keep track of all of the client's activities during the week by looking at the earning and spending activity on a weekly basis.
   c. Clients can exchange cards with other clients and they can be therapeutic to each other by analyzing each others' earning and spending activities.
   d. The staff can revise the client's token plan on a weekly basis based on the previous week's behavior as reflected on the token card.

5. In the early stages of a token economy program you should:

a. make it fairly difficult for the client to earn tokens
b. make it fairly easy for the client to earn tokens
c. make the client work longer for fewer tokens
d. none of the above

TRUE - FALSE ITEMS

6. In a token economy, the client has an opportunity to "earn" tokens that can be exchanged for valued goods and services.

_____True _____False

7. In a token economy, tokens are awarded contingently. That is, they are given only when the behavior being strengthened is displayed.

_____True _____False

8. In a token economy, the giving of reinforcement immediately after desirable behavior occurs (immediacy of reinforcement) is not an important consideration.

_____True _____False

9. A token reinforcer is an object which can be exchanged for items or activities of value to the client.

_____True _____False

10. Tokens are valuable because they help keep the client's attention on particular behaviors he or she is working on - thus making the behavioral improvement easier to attain.

_____True _____False

11. A token economy is a set of procedures for systematically using tokens to reinforce (strengthen or increase) desired behavior.

_____True _____False

12. In a token economy, you should be concerned only with behaviors which are to be strengthened, such as self-care, social skills and work skills.

_____True _____False

13. In operating a token economy you should set priorities. Your main consideration should be given to problems which are common to many clients, and to the changes which are most likely to help bring immediate improvement in the client's level of functioning.

_____True _____False

14. It is not necessary for you to be concerned with quantity of behavior in a token economy, since your main interest is in the quality of behavior.

_____True _____False

15. A token economy must be kept in balance according to available money (unspent tokens), client preferences (demand) and stage of client progress.

_____True _____False

16. Motivation by the client to earn tokens is in direct proportion to the attractiveness of the items that the client can purchase.

_____True _____False

17. In selecting tokens, it is not important to be concerned with the convenience and ease that the tokens have for use by the staff.

_____True _____False

18. Generally, as skills develop and behavior improves, the amount of behavior required should be gradually increased so that the clients are performing longer for fewer tokens.

_____True _____False

19. Generally, inappropriate behaviors cannot be weakened by requiring the clients in the token economy plan to pay a fine, or charge, each time the inappropriate behavior occurs.

_____True _____False

20. To be effective, a token economy should be a flexible system.

_____True _____False

21. Tokens are useful to draw attention to uncooperative clients.

_____True _____False

22. A desirable behavior is more likely to persist if the token system is gradually faded out after desired behavioral gains are achieved by the client.

_____ True _____False

23. The client's behavior, which is followed by a token reinforcer, which is then exchanged for a backup reinforcer, is the basic procedural unit in a token economy.

_____True _____False

24. Clients may try to bargain over the cost of items. Your best response is to haggle with the client and drive a hard bargain.

_____True _____False

25. By slowly shifting to increasingly longer intermittent reinforcement schedules, we can increase the chances of maintaining desirable behavior established under a token economy system.

_____True _____False

Solution to Student Quiz 100- 6A
Code 12-76
Paraprofessional Level

Texas Department of Mental Health and Mental Retardation

The Token Economy

1. D
2. A
3. D
4. B and D
5. B
6. True
7. True
8. False
9. True
10. True
11. True
12. False
13. True
14. False
15. True
16. True
17. False
18. True
19. False
20. True
21. False
22. True
23. True
24. False
25. True

Lesson Plan 100-7
Code 77-1

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

APPLICATION OF BEHAVIOR MODIFICATION TECHNIQUES TO SPECIFIC BEHAVIORS: TEACHING NEW BEHAVIORS

LESSON PRESENTED TO : TDMHMR Personnel Participating in Behavior Modification Programs

PLACE : Classroom

REFERENCES : Blackham, G. J., Silberman, A. Modification of Child and Adolescent Behavior. Belmont, CA: Wadsworth Publishing Company, Inc., 1975.

Gagne, R. M. The Conditions of Learning. (2nd Ed.) New York: Holt, Rinehart and Winston, 1970.

Powers, R. B., Osborne, J. G. Fundamentals of Behavior. New York: West Publishing Company, 1976.

Rimm, D. C., Masters, J. C. Behavior Therapy: Techniques and Emperical Findings. New York: Academic Press, Inc., 1974.

Tharp, R. G., Wetzel, E. T. Behavior Modification in the Natural Environment. New York: Academic Press, 1969.

Watson, L. S. How to use Behavior Modification with Mentally Retarded and Autistic Children: Programs for Administrators, Parents, Teachers and Nurses. Libertyville, IL: Behavior Modification Technology, 1972.

Whaley, D. L., Malott, R. W. Elementary Principles of Behavior. New York: Appleton-Century-Crofts, 1971.

STUDY ASSIGNMENT : Read Student Handout 100-7.

INSTRUCTIONAL MATERIALS AND EQUIPMENT : Chalkboard, chalk, eraser, 35mm projector, transparencies numbered 100-7-0 through 100-7-61; Student Handout 100-7-1 (to be issued during class) and the videotape series listed under Section III, below.

TYPE OF INSTRUCTION : Lecture and Group Discussion

I. INTRODUCTION

A. Opening Statement

Note: Display Transparency 100-7-0

Many techniques or "tools" are available to aid us in teaching others new behavior. In this instructional module, we will review some of these tools and discuss their practical application in helping a client develop new behaviors.

B. Instructional Objectives

Upon completion of this instructional unit dealing with methods of teaching new behavior, the student should be able to:

1. Define shaping
2. Identify examples of shaping
3. Arrange a list of behaviors in order for shaping, when given a description of the person's present behavior as well as the desired goal
4. Define and identify examples of chaining
5. Identify the various types of prompts and the ways in which these prompts are presented and faded.

II. PRESENTATION

A. Reinforcement

Note: Display Transparency 100-7-1

1. As we discussed in an earlier instructional module, conditioning, or teaching, new behavior is accomplished through the process of reinforcement.

Note: Display Transparency 100-7-2

2. In teaching a new behavior, you must select reinforcers for each individual that are powerful enough to motivate the individual to perform the task at hand. If the person will not expend any effort to get what is offered to him, the item is not a reinforcer for that individual.

Note: Display Transparency 100-7-3

3. There are several factors that determine the effectiveness of reinforcement. They are (1) the particular thing used as reinforcement; (2) the time interval between the occurrence of the behavior and reinforcement; (3)the person's state of deprivation

and (4) the size--or magnitude of reinforcement used.

Note: Display Transparency 100-7-4

4. The particular thing used as reinforcement - We know that there are three main types of reinforcement: primary, manipulatable, and social. Primary reinforcement refers to those things that are necessary to sustain life, such as food and drink. Manipulatable reinforcement involves toys, games, activities and situations where objects can be handled. Social reinforcement involves other people. Praise, affection, and attention fall into this last category.

Note: Display Transparency 100-7-5

5. In using reinforcement as a tool to develop new behaviors, you have to remember that not everyone will perform well for the same reinforcer. Many individuals prefer sweets or starchy foods, whereas, others may prefer toys, activities, tokens, or money. Still others may perform just for the attention and praise they receive from staff members and peers.

Note: Display Transparency 100-7-6

6. What do you look for when you are attempting to find a strong reinforcer for an individual?

Note: Display Transparency 100-7-7

7. These questions may assist you in your efforts to find a strong reinforcer.
What does the person do with his free time?
What food have you noticed an affinity for?
What activities does the person seem to enjoy?
How does the person respond to praise and attention?

Note: Display Transparency 100-7-8

8. The time interval between the occurrence of the behavior and reinforcement.

Note: Display Transparency 100-7-9

9. Reinforcement influences the behavior that is occurring at the time it is given. For example, if you are teaching a child to work a puzzle and after she connects two of the pieces together, you give her a cookie while she is looking out the window, then you may have reinforced the behavior of looking out the window. You may have mistakenly strengthened inattentive behavior that

could compete with the behavior you are trying to teach. Remember, it is very important that you give the reinforcer *immediately* after the correct behavior occurs.

Note: Display Transparency 100-7-10

10. This need for immediate reinforcement sometimes creates a problem for the staff because it is sometimes impossible to give reinforcement the instant a desired behavior has occurred.

Note: Display Transparency 100-7-11

11. For this reason a "bridging signal" is needed. A bridging signal is used to "bridge" the gap between the correct behavior and the main reinforcement. It signals the client that he has performed correctly.

Note: Display Transparency 100-7-12

12. Social approval such as "good boy", with a smile and a pat on the back, can be used to bridge the gap between putting the puzzle together and giving the child a cookie. A bridging signal is quick and easy to use. Many times, as training progresses, the main reinforcement can be dropped and the bridging signal can be used alone as a reinforcer.

Note: Display Transparency 100-7-13

13. *Deprivation* - The strength of a given reinforcer will depend upon how long the individual has been without it. It would be difficult to use food, or even sweets as reinforcement for someone who has just eaten a large meal. A client who has not recently received candy, toys, or attention will work harder to get these things, because he is in a deprived state.

Note: Display Transparency 100-7-14

14. *Size of reinforcement* - Reinforcement should neither be too small nor too large. If it is too small, the client will not put out as much effort to get it. If it is too large, the person will become satiated and no longer crave it, causing it to be useless as a reinforcer, until deprivation again sets the stage for it to become effective.

B. Shaping

Note: Display Transparency 100-7-15

1. From our earlier discussions, we know that contingent reinforcement is a powerful training tool which we can use to reinforce and thereby strengthen appropriate behavior. How-

ever, many times an appropriate response is not available in a person's behavioral repertoire. This presents us with a serious problem because the desired response must first occur if it is to be reinforced.

Note: Display Transparency 100-7-16

2. Fortunately, in such cases, it is possible to use a "shaping" procedure which can get us to the desired response. Shaping is simply a general procedure designed to mold simple behavior into more complex behavior. We use the shaping technique to teach a client new responses or behavior which he or she did not previously perform. This is done by reinforcing closer and closer approximations of the desired behavior.

Note: Display Transparency 100-7-17

3. In shaping behavior, you need to select some aspect of the client's present level of behavior which has something in common with the target behavior. You then reinforce this behavior. Reinforcement causes the selected aspect of the behavior (and variations of it) to occur more often.

Note: Display Transparency 100-7-18

4. From these variations, you can then select some aspect to reinforce which is even closer to the final desired behavior. As behavior is gradually changed in this way--and, as the staff gradually changes the requirement for reinforcement--the client's behavior will begin to more closely resemble the final desired behavior.

Note: Display Transparency 100-7-19

5. Following are basic steps involved in the shaping process.

Note: Display Transparency 100-7-20

6. Define your goal or terminal behavior - Before the behavior can be shaped, you must identify the target behavior. That is, you need to decide on the final behavior pattern you would like to see the client acquire and maintain. This is the actual behavior that you want the person to perform. The final behavior pattern is your termination point.

Note: Display Transparency 100-7-21

7. It is important that you specify the goal--or terminal behavior--very clearly. This is because if the training goal is not clearly specified you cannot adequately determine the various steps that make up the final behavioral component.

447

Note: Display Transparency 100-7-22

8. Identify the initial response (or the client's operant level). At this point, the clients existing behavioral level becomes quite important. The more deficient he is in the behavior you desire to training him, the more steps you will have to use when you start the shaping process.

Note: Display Transparency 100-7-23

9. You will need to ask these questions:
Does the client pay attention when talked to? Will he follow simple instructions? If he lacks these very basic behaviors, you will have to train them before other training can begin. This basic behavioral level is also known as the client's operant level.

Note: Display Transparency 100-7-24

10. After deciding on the final behavior that you want the person to perform, you should observe him carefully to identify an initial response which in some way resembles the final behavior. This initial behavior must be performed by the person with some minimal frequency. Otherwise, you cannot reinforce it and thereby increase its frequency.

Note: Display Transparency 100-7-25

11. Perform a task analysis - The next step in planning a shaping procedure is to identify the steps that make up the behavioral component you plan to shape. You can do this by listing sequentially the behavioral steps that lie between the individual's operant level and the terminal behavior.

Note: Display Transparency 100-7-26

12. Your success or failure in the training program will depend upon your ability to come up with a correct and complete identification of all crucial steps that make up the behavioral component. If some essential steps are left out, the behavioral component may not develop properly as you proceed.

Note: Display Transparency 100-7-27

13. Reinforce variations of the initial behavior that more closely resemble the terminal behavior. After you have identified the initial behavior, reinforce it until it occurs regularly.

Note: Display Transparency 100-7-28

14. Once this behavior is occurring with reasonable regularity, reinforce another behavior which more closely approximates the

desired terminal response. Only those behaviors which more closely resemble the desired behavior should be reinforced.

Note: Display Transparency 100-7-29

15. This process of selectively reinforcing closer approximations of the desired behavior, while not reinforcing lesser approximations, should continue until the terminal behavior occurs and is reinforced directly.

C. Chaining

Note: Display Transparency 100-7-30

1. Most behavior consists of a sequence of responses, which is called a response chain. The component parts of a chain usually represent separate responses which are already in the client's behavioral repertoire.

Note: Display Transparency 100-7-31

2. These separate responses are "linked" in a particular sequence to form the chain. In learning a behavioral chain, the first link serves as a cue or stimulus for the link that follows (and so on down the line until the final link of the chain is performed).

Note: Display Transparency 100-7-32

3. This pattern of learning response chains is clearly demonstrated by the difficulty individuals have in performing certain learned responses in reverse order. For example, try to recite the alphabet backwards.

Note: Display Transparency 100-7-33

4. The importance of one link serving as a cueing device for another link is revealed by the difficulty a person has in starting at the middle of the sequence and performing the remaining responses from that point on. However, if the person returns to the beginning of the sequence, he can perform the responses without great difficulty.

Note: Display Transparency 100-7-34

5. The conditions for learning response chains are summarized in the slide you see projected on the screen. We will see that learning response chains are important because they (1) enable the client to learn complex behavioral sequences and (2) permit you to economize on the use of reinforcers.

6. If much of the behavior people exhibit in daily life is composed of response chains, then we might ask ourselves what are the basic conditions for learning them?

Note: Display Transparency 100-7-36

7. Gagne (1970) describes five essential conditions for learning chained behaviors. We should keep in mind that the separate links must be learned before they can be chained.

Note: Display Transparency 100-7-37

8. Fundamental to the process is the requirement that the learner must execute each link in the proper sequence.

Note: Display Transparency 100-7-38

9. The behavioral links of the chain must be performed in close time succession to ensure that the links are chained together.

Note: Display Transparency 100-7-39

10. Also, it is necessary to report the sequence until the desired learning has been achieved.

Note: Display Transparency 100-7-40

11. As you might expect, reinforcement must be present in order for behavioral chains to be learned.

Note: Display Transparency 100-7-41

12. Keep in mind also that the performance of the final link in the chain must lead to reinforcement. If reinforcement is not immediately given upon the completion of the final response unit in the chain, the terminal link will drop out or extinguish, and the chain will not be maintained.

Note: Display Transparency 100-7-42

13. It is also important to remember that chaining can be accomplished by teaching the separate components of a complex behavior in a backward fashion. This is called backward conditioning.

Note: Display Transparency 100-7-43

14. In backward conditioning, the terminal or last response in the chain is taught first. The next to the last response is trained second. This process is continued, in backward fashion, until each of the components in the chain is finally performed.

Note: Display Transparency 100-7-44

15. The chaining procedure is important for two reasons: first, it allows the client to learn complex sequences of behavior; and second, it is very economical as far as reinforcement is concerned. This is because you give only one main reinforcement after the final link in the chain has occurred.

D. Prompting

Note: Display Transparency 100-7-45

1. Prompting is a tool that can be used in the shaping process to develop new behavior. It consists of giving a client special cues such as instructions, directions, examples, and models that direct his attention toward the task the trainer is attempting to teach him. The purpose of the prompt is to make it clear what the client is supposed to do.

Note: Display Transparency 100-7-46

2. Basically, there are three types of prompts: verbal, gestural, and physical.

Note: Display Transparency 100-7-47

3. A verbal prompt consists of giving the client a verbal cue or simply telling him what to do.

Note: Display Transparency 100-7-48

4. A gestural prompt consists of pointing the hand or making a motion while also providing a verbal prompt. That is the trainer not only tells the client what he should do but also "shows" him what he should do.

Note: Display Transparency 100-7-49

5. A physical prompt involves actual manipulation of the client's body or limbs. Of the three types of prompts, the physical prompt provides the client with the greatest amount of information or understanding.

E. Fading

Note: Display Transparency 100-7-50

1. Fading is the act of gradually changing cues in the person's environment. If you gradually "introduce" new cues you are fading in cues. If you gradually remove cues, then you are fading out cues.

Note: Display Transparency 100-7-51

2. Physical, gestural, and verbal prompts should be used only as long as they are needed. When you don't need them anymore, start fading them out.

Note: Display Transparency 100-7-52

3. Physical prompts are usually used to initiate a new step in the training program and are faded out first. Gestural and verbal prompts may have to be used for a longer period. However, they should be eliminated as soon as the client can function without them.

Note: Display Transparency 100-7-53

4. Gestural prompts should be faded out before verbal prompts and the client should ultimately be able to complete the task without any prompts other than the initial verbal command.

Note: Display Transparency 100-7-54

5. It is important to remember that prompts should be faded out very gradually so that the previously learned behavior is not disrupted.

F. Stimulus Control

Note: Display Transparency 100-7-55

1. Shaping and reinforcement principles are used to teach new behavior. However, once the new behavior is learned, it is important that it occurs under appropriate circumstances.

Note: Display Transparency 100-7-56

2. Once a client has been trained to undress, he needs to be taught the appropriate time and place to undress, usually at toileting time, bathtime, and bedtime on the ward or in the home. In order to train a client to display such appropriate behavior, we use a stimulus control technique.

Note: Display Transparency 100-7-57

3. Stimulus control refers to the fact that certain cues or stimuli in the environment actually control our behavior. A red traffic light or a child running out in front of our car controls our behavior of applying the brakes. It is an automatic signal to stop. When under the stimulus control of a classroom situation, we sit quietly in a chair and attend to the speaker while taking notes.

Note: Display Transparency 100-7-58

4. Stimulus control develops by having a cue become associated with a particular behavior that is reinforced. The reinforcement causes the cues, which are present during reinforcement, to gain control of the behavior itself.

Note: Display Transparency 100-7-59

5. When behavior is under inappropriate stimulus control the person is usually violating some form of social taboo. For example, a man attempting to obtain money from a bank is using an inappropriate withdrawal procedure, i.e. a pistol. It is not the pistol per se that is inappropriate because it is acceptable for a bank guard to be in the bank with a pistol. But is is not appropriate for an ordinary citizen to be in a bank pointing a pistol at the teller while requesting money.

Note: Display Transparency 100-7-60

6. If the individual who is inclined to withdraw money by use of a pistol is to stay out of prison, he must be taught to make withdrawals using proper banking procedures.

Note: Display Transparency 100-7-61

7. Much of the "psychotic" or "retarded" behaviors exhibited by clients are caused by inappropriate stimulus control. So, if we want behavior to occur appropriately, we must get it to occur under the appropriate circumstances and reinforce it, so that cues in that particular situation will develop stimulus control over the behavior, through conditioning.

G. Application to Specific Behaviors

We have previously discussed some of the basic principles utilized in teaching new behavior. Now, we will illustrate briefly the application of these principles over a variety of specific behaviors.

1. When teaching an individual with no previous experience the basics of writing, your task analysis or steps could look something like the situation described in the handout entitled "Academic Example: Writing".

   As you can see from the handout, the definition of the correct behavior expected of the individual is gradually changed to more closely approximate the terminal behavior,that is,writing.

   Fading is demonstrated as old cues (e.g.,imitating an adult) are withdrawn and new cues (e.g., copying a model) are established. The three types of prompts previously discussed can be utilized to facilitate learning.

   To establish stimulus control over the writing behavior, you should prepare the training room. Remove as many distractions as possible. Have the necessary training materials (e.g., pencils or crayons and paper) ready for use. If possible, conduct the training at the same time and place each day.

The object is to have the client know what behavior is expected of him in that particular training situation. After he has mastered the task, the stimulus control features can gradually be faded to enable him to perform the behavior in a variety of settings and situations.

2. The task analysis for teaching a client to put on his pants might consist of the steps shown in the handout entitled "Self-Help Skills Example: Dressing Pants."

   In this example backward chaining is used to connect the individual steps of the task. The client is gradually asked to perform more of the task on his own beginning with the last step in the sequence.

   The number and complexity of steps in the task analysis will depend upon the client's operant level and rate of learning.

3. At this time, discuss with the student material included in the handout which deals with vocational skills, social/recreational skills and communication/language skills. Remind the students that the task analyses presented are not complete, but represent examples only of the types of things one needs to keep in mind when conducting a task analysis that will be used as the basis for teaching a new behavior.

III. SUPPORTING VIDEOTAPED MATERIALS

The following series of "how-to" videotapes have been developed to support this particular instructional module. The instructor should select for class use those videotapes which are pertinent to the student's needs.

(a) Developing Self-help Skills
(b) Developing Academic Skills
(c) Developing Social-Recreational Skills
(d) Developing Conversation Language Skills
(e) Developing Vocational Skills
(f) Dealing with Inappropriate Behavior

Note to Instructor: If desired, administer Student Quiz 100-7 at this time. Use the quiz results as a basis for clearing up misconceptions and reteaching material the students failed to grasp during the course of instruction.

IV. SUMMARY

During this period, we reviewed several important principles which are fundamental to teaching new behaviors, including the reinforcement process, shaping, chaining, the use of prompts and the importance of stimulus control. We saw that behavior which is reinforced (rewarded) tends to be repeated and that behavior which is not reinforced is weakened or eliminated. Thus, if a behavior is to be learned (or strengthened) it must be accompanied by a reinforcer. We discussed several classes of reinforcers as being important. These included a positive reinforcer such as food, money, or toys, and a social reinforcer such as praise, a hug, a smile, or attention. We also saw that, by definition, an object or event qualifies as a positive reinforcer only if it increases the behavioral act it follows. Careful observation is required before we can determine what is a positive reinforcer for a given individual. For example, coffee would not be an appropriate reinforcer for a person who dislikes coffee, and games would not be appropriate reinforcers for a person who prefers personal attention to playing a game.

Stimulus control was presented as an important consideration in behavior and several suggestions were made for helping bring a client's behavior under stimulus control. This is an important consideration because skills that are easily learned by "normal" people, such as using the bathroom in the correct place at the right time, must be taught to some clients. In this process, after the client has learned the skills through operant conditioning techniques, he must then learn to associate the skill with the correct stimulus control. In other words, once a client has learned to go to the bathroom, he must learn that he should only go when he has his pants down and is standing over the toilet. The toilet and his pants being down function as the stimulus controls for the clients using the bathroom.

We discussed fading--both in terms of gradually removing cues or prompts and in learning or stretching out a reinforcement schedule. We noted that fading out the cues refers to the process of gradually and progressively removing the cues or prompts which have (1) caused the particular behavior to be emitted or (2) which have marked the occasion on which the particular behavior, if emitted, would be reinforced.

Programmed Student Handout 100-7
Code 77-1

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

Specific Techniques and Procedures in Behavior Modification: Teaching New Behaviors

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".
2. After being given an opportunity to learn the bit of information, you are asked a question to see of you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

1. This handout deals with methods of teaching new behaviors. The topics that will be discussed include: 1) reinforcement, 2) shaping, 3) chaining, 4) prompting, 5) fading, and 6) stimulus control.	
What subject is covered in this programmed student handout? ____________________ .	teaching new behaviors
List the six topics that will be ____________________ .	reinforcement, shaping, chaining, fading prompting, and stimulus control
2. Reinforcement is said to have occurred when the results or consequences of a behavior increased the probability of that particular behavior occurring again. For example, rewarding a client's performance of a behavior with candy usually leads to the client repeating that behavior.	
When the results of a behavior causes that behavior to occur more often, the process is called ____________________ .	reinforcement
3. When selecting a reinforcer for a client, it is important to select one that is powerful enough to motivate the client to perform the task at hand. If the client will not work to get what is offered to him, it is not a reinforcer for the individual in that situation.	
How powerful does a reinforcer have to be for client? ____________________ .	powerful enough to motivate the client to perform
If a client will not work to get what is offered to him, is it a reinforcer for that client?	no
4. We can break down reinforcement into three main categories: primary, manipulatable, and social. Primary reinforcement refers to those things that are necessary to sustain life. Manipulatable reinforcement involves games, toys, money, and situations where objects can be handled. Social reinforcement involves other people. Praise, affection, and attention fall into this	

category.	
What are the three main categories of reinforcement? ______________________________ ______________________________ ______________________________.	primary, manipulatable, and social
A staff member's smile is an example of what category of reinforcement? __________	social
A candy bar is an example of what category of reinforcement?	primary
Playing solitaire is an example of what category of reinforcement?	manipulatable
5. Not everyone will perform for the same reinforcers. So, in order to find an effective reinforcer for a particular individual what do you look for? For one thing, you could determine what edibles the individual enjoys. Also, you could observe the client's free time to determine favorite activities and to identify persons he responds well to. Finally, you can ask the client outright what he prefers.	
Will everyone perform well for the same reinforcers? ______________________________	no
To determine an effective reinforcer for a client, you should __________ the person to establish his preferences.	observe
6. Reinforcement influences the behavior that is occurring at the time it is given. Therefore, it is very important to deliver the reinforcer immediately after the correct behavior occurs.	
Because ____________ effects the behavior that is occurring when it is given, it is important to give the reinforcer ________ after the occurrence of the correct behavior.	reinforcement immediately
7. A "bridging signal" can be used to bridge the gap between the correct behavior and delivery of the main reinforcement. For example, social approval such as "good boy" with a smile and a pat on the back, can connect the completion of a task to the main reinforcement (e.g. M & M's, cookies,	

toys, etc.). A bridging signal is quick and easy to use. It immediately signals the client that he has performed correctly. Later in training, the main reinforcement can be faded out and the bridging signal can be used alone.	
A __________ __________ can be used to connect the appropriate behavior to the main reinforcement.	bridging signal
It signals the client that he has __________ __________.	performed correctly
8. The strength of a reinforcer will depend upon the deprivation state of the individual. This simply means how long has the individual been without it. For example, a client who has not recently received much attention will work harder to get it.	
The __________ __________ of an individual will play a part in determining the strength of a reinforcer.	deprivation state
9. The size of the reinforcement will also determine its effectiveness. If the reinforcer is too small, the client will not expend the effort to get it. On the other hand, if it is too large, the client will become satiated and no longer desire it.	
If reinforcement is too ________, the client will become satiated.	large
If reinforcement is too ________, the client will not work to get it.	small
10. As we have stated, reinforcement is used to reward and thereby strengthen appropriate behavior. But what happens when the desired behavior does not occur in the first place? In this case, we use a shaping procedure to teach the new behavior. This is accomplished by reinforcing closer and closer approximations of the desired behavior.	
What do you do when the behavior that you wish to reinforce does not occur at all? ____ ____.	use a shaping procedure
A __________ procedure involves reinforcing closer and closer approximations of the ____.	shaping desired behavior

11. There are several basic steps involved in the shaping process.

First, you must define your goal or terminal behavior. This is the final behavior that you want the client to perform and your termination point.

Second, you must identify the client's operant level and the initial response. The operant level is the person's existing behavioral level. From the operant level you then choose a starting point. That is you choose a behavior that has something in common with the target behavior. This starting point is the initial response you will be concerned with in the shaping process.

The first step involved in the shaping process is defining your ____________ or ____________ ____________.

goal
terminal response

The ____________ level is the client's existing behavioral level.

operant

The ____________ ____________ will be your starting point.

initial response

12. Next, you must identify the steps that make up the behavioral component to be shaped. You have already identified the terminal behavior (or goal) and the initial response (or starting point). Now, you must list--in a sequential fashion--all crucial behavioral steps that lie between the starting point and goal. This process is referred to as the TASK ANALYSIS.

To perform a __________ ______________, you should identify all of the crucial steps that make up the behavior to be __________.

task analysis

shaped

13. Finally, you must reinforce variations of the initial behavior (i.e., the steps of your task analysis) that more closely resemble the behavior which constitutes your goal. This process of selectively reinforcing closer approximations of the desired behavior--and not reinforcing lesser approximations--continues until the desired or terminal behavior occurs. You reinforce this behavior directly.

After you perform the task analysis, you ____________ variations of the desired behavior that more closely resemble the final, desired behavior.	reinforce
14. Most behavior consists of a sequence of responses that we will call response chains. Usually the separate components of a response chain can already be performed by the client. The problem you face is that of "linking" the separate components of the chain together to form a more complex behavior.	
A ____________ ____________ is a sequence of behaviors that form a more complex behavior.	response chain
15. In the learning of a behavioral chain, the first link serves as a cue or stimulus for the link that follows. Learning a behavioral chain can be accomplished by teaching the separate components of a complex behavior in a BACKWARD fashion. That is the terminal or last response in the chain is taught first, then the next to the last response and so on. This process is called chaining.	
The first link of a chain serves as a ____ or ________ for the link that follows.	cue stimulus
Chaining is usually developed in a ________ fashion.	backward
16. Much of the behavior that people exhibit consists of response chains. Getting dressed, kicking a ball, taking a bath, and reciting a poem or speech are just a few examples of common response chains.	
Gagne (1970) lists five conditions which he considers to be essential for learning of response chains:	
1. The separate links must first be learned before they can be chained. 2. The learner must perform each link of the chain in the proper sequence. 3. The behavioral links of the chain must be performed in close time succession	

so as to ensure that the links become chained together.	
4. The sequence must be repeated until the desired learning has been achieved.	
5. Reinforcement must always be present in the chain learning process.	
It is important for you to remember that the final link in the chain must be reinforced. Otherwise, the chain will not be maintained.	
The separate links of a chain must be __________ before they can be chained.	learned
Why should the behavioral links of the chain be performed in close time succession? ____ ____	to ensure that the links are chained together
What must be present in the learning of chains? __________________	reinforcement
17. The chaining procedure is important for two reasons:	
1. It allows the client to learn complex sequences of behavior.	
2. It is economical in the use of reinforcement. That is, only one main reinforcer has to be given after the completion of the final link in the chain.	
Chaining allows the client to learn _____ behavior.	complex
What makes a chaining procedure economical in the use of reinforcement? __________ ______________________________ ______________________________ ______________________________.	only one main reinforcement is given after the completion of the chain
18. Special cues that precede a behavior and help to initiate that behavior are referred to as PROMPTS. These prompts can be instructions, directions, examples, or models that direct the client's attention to the task at hand. The prompt is designed to make it clear what the client is to do.	

Prompts help to ________ behavior.	initiate
The purpose of the prompt is to ________ ____________________.	make it clear what the client is to do
19. Basically, there are three types of prompts: verbal, gestural, and physical. A VERBAL prompt, consists of a verbal cue or simply telling the client what to do. A GESTURAL prompt deals with directing the client's behavior through motions or gestures that "show" him what he should do. The PHYSICAL prompt provides the client with the most information. It consists of actually manipulating the client's body or limbs in such a manner as to lead to the desired behavior.	
List the three basic types of prompts. ____________________ ____________________.	verbal, gestural, and physical
Which type of prompt directs behavior through motions?____________	gestural prompt
Which type of prompt involves manipulating the client's body or limbs?__________	physical prompt
Which prompt consists of telling the client what to do?____________	verbal prompt
20. Prompts should be used only as long as they are needed. Then they should be "faded" out. FADING is the act of gradually changing cues in the client's environment. When you introduce new cues, you are fading in cues. When you gradually remove cues, you are fading out cues.	
The act of gradually changing cues in a client's environment is called ________.	fading
21. Usually, physical prompts are used to initiate a new step in the training sequence and are faded out first. Gestural prompts should then be eliminated--before you begin to eliminate verbal prompts--and finally, the client should be able to perform the task after being given the initial command only. It is important that the prompts be faded out very gradually so the previously learned behavior is not disrupted.	

____________ prompts are faded out first.	physical
____________ prompts are faded out last.	verbal
22. Behavior is influenced not only by its consequences, but also antecedent events. These are events that preceed the behavior. They also play an important role in controlling behavior. An antecedent event or environmental condition gains control over behavior by being associated with a behavior that is being reinforced.	
An antecedent event is one that ____________ the behavior.	preceeds
Environmental conditions and antecedent events gain control over behavior by being ____________ with a behavior that is reinforced.	associated
23. When a behavior occurs in the presence of certain stimulus conditions and does not occur in the absence of these particular stimulus conditions, we say the behavior is under STIMULUS CONTROL.	
Example: When a client urinates only in the toilet with the appropriate clothing removed, elimination is under stimulus control of the toilet and appropriate removal of clothing.	
Example: When a client is always taught to dress in the bedroom, the bedroom itself becomes a stimulus that controls the dressing behavior.	
Example: When a client is under the appropriate stimulus control of a classroom situation, he or she is quiet and attentive to the speaker while possibly taking notes.	
____________ ____________ occurs when certain stimuli in the environment controls our behavior.	stimulus control

Sample Student Quiz 100-7
Code 77-1

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

Specific Techniques and Procedures in Behavior Modification: Teaching New Behaviors

Multiple Choice Items

1. Which of the following statements are not true about reinforcement?

   a. reinforcement increases behavior
   b. not everyone will perform for the same reinforcement
   c. reinforcement influences the behavior that is occurring at the time it is given
   d. reinforcement must be earned

2. A "bridging signal" is:

   a. a training procedure used to show the individual what he did wrong
   b. rather difficult to use
   c. used to connect the correct behavior to the delivery of the reinforcement
   d. never used alone

3. Which of the following is not one of the three main categories of reinforcement previously discussed?

   a. manipulatable reinforcement
   b. differential reinforcement
   c. primary reinforcement
   d. social reinforcement

4. A shaping procedure:

   a. is a form of punishment
   b. should be used to maintain a desired behavior
   c. is used to teach new behavior
   d. b and c only

5. Which of the following procedures would you use when a desired behavior does not occur at all or is occurring at a very low frequency?

   a. fading
   b. shaping
   c. discrimination training
   d. satiation

6. The process of developing a sequence of responses in a backward fashion is referred to as:

   a. chaining
   b. fading
   c. shaping
   d. not practical

7. Which of the following is not one of the steps involved in shaping?

   a. define your goal or terminal behavior
   b. identify the person's operant level
   c. differentially reinforce other behavior
   d. identify crucial steps of the behavior

8. When working on a chaining procedure, you should deliver reinforcement:

   a. after every step
   b. after every step performed correctly
   c. after the completion of the chain
   d. whenever you feel that it is deserved

9. The three basic types of prompts are:

   a. mental, gestural, and secondary
   b. primary, secondary, and social
   c. primary, manipulatable, and social
   d. verbal, gestural, and physical

10. Stimulus control occurs when:

   a. an insufficient amount of reinforcement is available
   b. too much reinforcement is available
   c. someone physically controls our behavior
   d. none of the above

TRUE/FALSE ITEMS

11. When selecting a reinforcer for another individual, it is important to select one that is powerful enough to motivate you.

_____True _____False

12. Primary reinforcement involves games, toys, and money.

_____True _____False

13. A reinforcer can be too small, but not too large.

_____True _____False

14. The task analysis refers to a list of all crucial behaviors in sequential fashion that make up the behavioral component.

_____True _____False

15. A response chain is a sequence of behaviors that form a simple behavior.

_____True _____False

16. Chaining is usually developed in a backward fashion.

_____True _____False

17. Reinforcement must be present in the learning of chains.

_____True _____False

18. Special cues that follow a behavior and help to reinforce that behavior are referred to as prompts.

_____True _____False

19. You can "fade in" cues as well as "fade out" cues.

_____True _____False

20. An antecedent event is one that preceeds the behavior.

_____True _____False

COMPLETION ITEMS

21. When the results of a behavior causes that behavior to occur more often, it is called ____________________.

22. A staff member's smile is an example of what category of reinforcement?

________________.

23. A ________________ procedure involves reinforcing closer and closer approximations of the desired behavior.

24. Chaining allows the individual to learn ____________ behavior.

25. ____________ ____________ occurs when certain stimuli in the environment controls our behavior.

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Solution to Sample Student Quiz 100-7
Code 77-1

TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

SPECIFIC TECHNIQUES AND PROCEDURES IN BEHAVIOR MODIFICATION: TEACHING NEW BEHAVIORS

1. d
2. c
3. b
4. c
5. b
6. a
7. c
8. c
9. d
10. d
11. False
12. False
13. False
14. True
15. False
16. True
17. True
18. False
19 True
20. True
21. reinforcement
22. social
23. shaping
24. complex
25. stimulus control

Student Handout 100-7-1
To Accompany Instructional
Module 100-7 "Teaching
New Behaviors"

TEXAS DEPARTMENT OF MENTAL HEALTH MENTAL RETARDATION

ELEMENTS OF TASKS ANALYSIS NEEDED FOR COMMON BEHAVIORS

Academic - *Example*: *Writing*

1. Makes random lines or chicken scratch with pencil or crayon *held in fist*.
2. Scribbles circular horizontal or vertical strokes.
3. Draws a vertical line, *imitating an adult*.
4. Draws a horizontal line, imitating an adult.
5. Performs push-pull strokes (e.g. V∧), imitating an adult.
6. Draws circle, imitating an adult.
7. Draws line between two parallel lines.
8. Holds pencil or crayon *in fingers*.
9. Draws horizontal and vertical line, *copying a model*.
10. Draws oblique lines (⟍ , ⟋), copying models
11. Draws vertical cross (+), square, oblique cross (X), triangle, and diamond, imitating an adult.
12. Colors within heavy outlines, then within faint outlines.
13. Draws letter and number shapes, copying models (e.g., C, Ɔ, U, ∩, O, V, Λ, L, ⅃, ɾ, J, Γ, ⅂)
14. Prints letters and numbers, imitating an adult.
15. Draws circle, crosses, square, triangle, and diamond, copying models.
16. Prints letters and numbers, copying models.
17. Draws circle, crosses, square, triangle, and diamond *without models*.
18. Prints all letters in the alphabet and all numbers 0-9 correctly without models.

. . .etc.

SELF-HELP SKILLS - EXAMPLE: DRESSING - PANTS

1. Client pulls pants up to his waist from his hips.
2. Client pulls pants up to his waist from his groin.
3. Pulls pants up to his waist from his mid-thighs.
4. Pulls pants up to his waist from his knees.
5. Pulls pants to waist from his ankles.
6. After the first leg is put into the first leg hole of pants, client puts second leg into second leg hole.
7. Client puts first leg into the first leg hole of pants.

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VOCATIONAL - EXAMPLE: PRE-VOCATIONAL SKILLS

1. Determines own skills possessed.
2. Determines job areas of interest after participating in a number of training settings.
3. Determines job possibilities in the community.
4. Identifies skills needed for jobs in the community.
5. Determines need for additional training based on interest and current skills.
6. Role plays job interviews.
7. Role plays on-the-job behavior.
8. Fills out job applications.
9. Determines job-related information: duties, hours, location, pay and pay period, benefits, etc.
10. Determines method and route for travel.

SOCIAL/RECREATIONAL - EXAMPLE: INTERPERSONAL RELATIONS

1. Client smiles and looks up when another person enters the room.
2. Holds head up in group activities such as eating, games, etc.
3. Seeks attention of others.
4. Accepts help from others.
5. Exchanges items for play or pleasure.
6. Participates in play or recreational activity with one or two peers.
7. Shows affection for familiar person.
8. Accepts and shows affection appropriate to home, school, and street.
9. Takes turn.
10. Engages in play or recreation activity with a group.

COMMUNICATION/LANGUAGE - EXAMPLE: SOCIAL SPEECH

1. Client maintains appropriate social distance when speaking to another.
2. Responds to and makes verbal greetings and farewells.
3. Says "thank you" for compliments or service. Says "please" with requests.
4. Remains quiet when others are talking.
5. Speaks using appropriate volume and tone in different situations.
6. Uses flowing speech, without pausing between words or word groups.
7. Participates in class and group discussions.
8. Initiates or pursues topics in conversation consistent with place, role, and social situation.

Lesson Plan 100- 8
Code 76-12

Texas Department of
Mental Health and Mental Retardation

THE USE OF PUNISHMENT TECHNIQUES IN THE INSTITUTIONAL SETTING

LESSON PRESENTED TO :	TDMHMR Personnel Participating in Behavior Modification Program
PLACE :	Classroom
REFERENCES :	Skinner, B.F. Science and Human Behavior, New York: Macmillan Company, 1933. Whaley, D.L. and Mallott, R.W. Elementary Principles of Behavior, Englewood Cliffs: Prentice-Hall, 1971.
STUDY ASSIGNMENT :	Read Student Handout 100-8 "The Use of Punishment Techniques in the Institutional Setting".
INSTRUCTIONAL MATERIALS AND EQUIPMENT :	Chalkboard, chalk, eraser, 35mm projector and transparencies numbered 100-8-0 through 100-8-25.
TYPE OF INSTRUCTION :	Lecture and Group Discussion

I. INTRODUCTION

Note: Display Transparency 100-8-0

A. Opening Statement

Punishment is one of the tools available to us to change behavior. Even though it is usually better to use more positive tools than punishment to change behavior, there are times when the positive methods do not work. Punishment may be required when these times arise. This lesson plan is designed to provide you with information concerning the use of punishment for changing behavior.

B. Instructional Objectives

When this unit is completed, the student will be able to:

1. define punishment
2. distinguish punishment from other behavior change techniques
3. list the side effects of punishment
4. carry out punishment procedures in the institutional setting

II. PRESENTATION

A. Frequency of Behavior

Note: Display Transparency 100-8-1

1. When we want to see what effect our actions have on the behavior of our clients, we are looking for some change in that behavior. When we can see change, we know that our actions have been useful. The measure that gives the clearest picture of change in behavior is the frequency of behavior. Frequency means, simply, how many times the behavior occurs. Frequency is used most often to describe changes in behavior because it is an objective measure - it is one aspect of behavior that can be measured accurately and agreed upon. Although behavior has many properties that may be looked at, we can be certain that if a behavior now occurs only half as frequently as it occurred last week, there is a definite change taking place. Also, every behavior has a frequency. Head banging, hand clapping, studying, thinking, exercising, and talking are very different behaviors in many ways, but the fact that they all have frequencies allows us to measure change in each one.

2. Now that we see the importance of the concept of frequency, we can use it when we talk about techniques that produce changes in behavior. These techniques can be divided into those that increase and those that decrease frequencies of behavior.

B. Consequences and the Frequency of Behavior

1. Most behavior modification techniques involve doing something immediately after the behavior we are interested in occurs. When we do something immediately following a behavior, we are affecting the consequences of that behavior.

Note: Display Transparency 100-8-2

One way of changing the frequency of a behavior is by affecting its consequences.

Note: Display Transparency 100-8-3

2. When the goal of therapy is to eliminate or weaken some unwanted behavior, consequences can be applied to that behavior to decrease its frequency. When the frequency of some behavior decreases as the result of some consequence that follows that behavior, punishment is said to occur.

Note: Display Transparency 100-8-4

3. Notice that frequency plays an important part in defining punishment. If some consequence produces a decrease in the frequency of a behavior, then and only then can the procedure be called punishment. If the consequence in question does not affect the frequency of the behavior, then the procedure cannot be called punishment. Likewise, if we follow some behavior with a consequence that produces an increase in the frequency of the target behavior, we are not using punishment. Punishment is only in effect when a decrease is seen in the frequency of the target behavior.

C. Technical Definition of Terms

Note: Display Transparency 100-8-5

1. Punishment can be defined as the presentation of some consequence following a behavior that results in the reduction of the frequency of that behavior.

Note: Display Transparency 100-8-6

2. Using the above definition for punishment forces a distinction between the act of punishing behavior and the event that is used to punish behavior. The event that can be used to decrease the frequency of behavior is called a punisher. Like punishment, an event is only a punisher if it decreases the rate of the behavior it follows. When a decision is made to use a punishment technique, it must be certain that the event chosen as a "potential punisher" does, in fact, decrease the frequency of the target behavior it follows.

Note: Display Transparency 100-8-7

3. Scolding, electric shock, fines, loud noises, spanking, and taking away toys, are all events that could be punishers for certain behaviors. The only way to know whether any of these events could be used as punishers in punishment procedures is to observe the effect on the frequencies of the behaviors they follow. Any event that does not produce a decrease in the rate of the behavior it follows is not a punisher. This is an important point. It means that there is no such thing as a punisher that

does not work. If the frequency of the behavior decreases, the event used to decrease that behavior is a punisher. If the event does not work, then it is not a punisher.

Note: Display Transparency 100-8-8

4. Consider this example: Johnny is always leaving his toys outside in the rain. In order to decrease the frequency of this behavior, Johnny's parents "punish" him by making him stay in his room all evening. The next day Johnny leaves his toys outside in the rain again. What can we say about this situation? First, we can say that being made to stay in his room was not an effective punisher for Johnny because there was no decrease in the frequency of the specified behavior. If Johnny's parents were to say, "We tried punishment and it didn't work", it should be pointed out to them that there is no such thing as punishment that doesn't work and that what they thought was punishment was obviously not, because it did not reduce the frequency of the behavior it followed.

   It could be that being confined to the bedroom might decrease the behavior of leaving toys outside for one person even though it was not effective with Johnny. This is another very important point.

Note: Display Transparency 100-8-9

5. The event that produces a decrease in the frequency of one person's behavior might not produce the same effect with another person. Take another example. Electric shock presented immediately after a child bangs his head might produce a decrease in the frequency of head banging. If so, we could say that electric shock is a punisher for that child in that situation. But for another child, electric shock may not act as a punisher. It is conceivable that for a child who likes electric shock, it could be used to increase the frequency of some behavior. The point is that you never know before the fact that any event is a punisher. An event is only a punisher if it makes a behavior decrease in frequency.

D. Types of Punishing Events

1. Usually punishment is thought of as something done to an individual that involves pain. But by our definition, punishment can involve any event that decreases the frequency of behavior. We have been using the term, "event" quite a bit in discussing punishment, because an "event" is any change from one condition to another. We can talk about the event of presenting a punisher like a loud noise immediately after some inappropriate behavior occurs. On

the other hand, punishment can consist of removing some positive event. In both kinds of punishment, the effect is judged on the same basis. If any event following a behavior decreases the frequency of that behavior, that event can be defined as a punisher. This includes the removal of a positive event as well as the presentation of a negative one.

Note: Display Transparency 100-8-10

The removal of a reinforcer following a response can be defined as a punishment procedure. The result of this procedure is a reduction in the frequency of the response with which it is associated. If the removal of a reinforcer in this manner results in a reduction, the removal can be thought of as a punisher.

Note: Display Transparency 100-8-11

2. Social contact, privileges, cigarettes, meals, tokens are all examples of positive reinforcers that might be available to use in procedures involving punishment by removal of reinforcement in the institutional setting.

   Punishment by removal of reinforcement may be thought to have an advantage over punishment procedures that involve presentation of unpleasant events. This advantage has to do with the fact that the reinforcers removed in this sort of punishment procedure may be used almost immediately to strengthen behavior that could take the place of those behaviors that are being eliminated.

E. Building Incompatible Behavior

1. When the goal of therapy is to eliminate or decrease the frequency of some behavior, it is wise to consider some alternative behavior in which the client can be encouraged to engage. If there is something the client can be reinforced for in the place of the undesirable behavior, the elimination of the undesirable behavior will occur sooner and with fewer bad effects. Behavior that is strengthened to occur in the place of undesirable behavior is sometimes referred to as "incompatible behavior".

Note: Display Transparency 100-8-12

Defining and reinforcing incompatible behavior to occur in the place of some undesirable behavior will always make the effects of a punishment procedure last longer. Behaviors that are incompatible are those that cannot occur at the same time. Standing up, for example, is incompatible with sitting down. Pressing lips together is incompatible with holding the mouth open. If incompatible behavior is reinforced while punishment procedures are being used it is more "worth the client's while" to give up the inappropriate behavior.

F. Side Effects of Punishment

1. Although the effect of punishment on the frequency of behavior can be clearly measured, there are effects produced by the use of punishment that are not so clearly understood, and as a result the effects of punishment are less predictable than behavior that is modified by other procedures.

Note: Display Transparency 100-8-13, 14, and 15

2. Punishment often produces a variety of unwanted side effects that get in the way of building a desirable behavior. We have all been the subjects of punishment at one time or another, and we are all familiar with the feelings we experience when we have been punished. These feelings which are technically called "conditioned emotionality" are universal with the use of punishment. Conditioned emotionality has been observed in rats, pigeons, dogs, and primates as well as all types of populations of humans who have been subjected to punishment procedures. If we were to analyze human interactions behaviorally, we could identify some type of punishment present in any situation where fear, anger, hatred, or dread are involved. These emotions are the by-product of punishment, and when they are present they interfere with the learning of appropriate behaviors. Another effect of punishment that is usually observed along with conditioned emotionality is called "generalized conditioned inhibition." Inhibition means preventing something from occurring. With regard to behavior, punishment is likely to produce inhibition of more behaviors than the one that is directly punished. Consequently, the use of punishment might make some appropriate, desirable behaviors less likely to occur. For example, punishment over a long period of time for talking out at inappropriate times may make an individual stop talking even on appropriate occasions. In this way, the effects of punishment generalize across unexpected dimensions and the result often interferes with desirable outcomes.

3. Another effect of punishment with which we are all familiar is that of "counter control." This concept has to do with the association of punishment with the agent that administers the punishment. The result is usually fear or resentment of the punishing agent, the people who are punished are less likely to perform when they are scared or angry. That is, the desired behavior is less likely to occur when punishment is employed to decrease other behavior. The phenomenon of counter control is observed readily in places like prisons where punishment is the primary method of controlling behavior.

   An off-shoot of counter control is the behavior of avoiding all aspects of the situation in which punishment is administered. When an individual avoids the punishing agent, the amount of control that agent is capable of exerting decreases.

Note: Display Transparency 100-8-16

4. One reason why punishment is disfavored has to do with the fact that its effects are often only temporary. Behavior that requires punishment in order to reduce its frequency is that way because it is maintained by powerful reinforcers. When a punishment procedure is discontinued, it is likely that the target behavior will occur again unless the reinforcers that previously maintained that behavior are made inaccessible. Consequently, the frequency of the undesired behavior is only suppressed so long as it is punished consistently. When punishment is removed the behavior emerges again.

Note: Display Transparency 100-8-17

So, although punishment decreases the frequency of the behavior, it is not the technique of choice because it:

a. generates conditioned emotionality

b. produces generalized conditioned inhibition

c. generates counter-control

d. gives rise to avoidance behavior

e. only temporarily suppresses behavior.

G. Rules for Effective Usage

Note: Display Transparency 100-8-18

1. When using a punishment technique, make sure that the target behavior (the behavior that will be punished) is clearly specified. The behavior that will show the effects of punishment will be the behavior that is occurring when the punisher is administered. In order to decrease the frequency of the target behavior that behavior should be defined precisely and should be the only behavior to be punished.

Note: Display Transparency 100-8-19

2. Define the punishment procedure precisely.

   a. Clearly specify the following information when using punishment:

      1. who will administer the punisher

      2. for how long will the punisher be delivered

      3. what information should be recorded

      4. what alternative behavior will be reinforced

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b. Clearly specify what the punisher will be.

Note: Display Transparency 100-8-20

3. Apply the procedure consistently. Punishment will not work effectively if the target behavior is only punished sometimes. A punishment procedure will reduce the frequency of the target behavior in a short period of time if it is applied whenever the unwanted behavior occurs. When the frequency of the target behavior is decreased faster, the punishment can be discontinued, and more positive methods of therapy can take its place. Failure to consistently punish the unwanted behavior almost makes certain that the procedure will have to be used over a long period of time.

Note: Display Transparency 100-8-21

4. Punish contingently. Punishment will work best if the punisher is applied while the problem behavior is occurring. If punishment is delayed for too long, it will work on some other behavior.

Note: Display Transparency 100-8-22

5. Always use punishment in conjunction with some more positive method of behavior change. Punishment alone does not give a person information as to what the desired behavior is. In order to replace the undesired behavior more efficiently with acceptable alternatives, behaviors that are incompatible with the unwanted behavior should be prompted and reinforced.

Note: Display Transparency 100-8-23

6. Make certain that the unwanted behavior is not reinforced. Many times, some undesirable target behavior may be maintained by attention or some other powerful reinforcer. Punishment will be most effective when the environment is arranged in such a way as to eliminate the possibility that any reinforcers come into contact with the target behavior.

Note: Display Transparency 100-8-24

7. Keep records of the changes in frequency of the target behavior. To be certain what effect punishment is having on the target behavior, each instance of punishment should be recorded. Judgments regarding changes or discontinuation of punishment procedures should be made on the basis of such records.

Note: Display Transparency 100-8-25

8. Consult the Commissioner's Rules for the use of punishment by contingent stimulation before employing any punishment procedure.

These rules are found in Section 302.04.07.009 of the Commissioner's Rule, Texas Department of Mental Health and Mental Retardation on Behavior Therapy Modification.

III. SUMMARY

During this instructional period, we have discussed the use of punishment as a tool for changing behavior. We saw that punishment can be defined as the presentation of some consequence following a behavior that results in reducing the frequency of that behavior. We mentioned that scolding fines, electric shock, loud noises, spanking and taking away toys can be punishers for certain individuals. Importantly, we established that what is punishing for one individual may not be punishing for another one. We also noted that the removal of a positive reinforcer following an undesirable behavior can qualify as a punishment procedure--provided its removal results in a reduction in the frequency of the behavior in question. Defining and reinforcing behavior which is incompatible with an undesirable behavior was also discussed as a useful technique. This has the tendency to make the effects of a punishment procedure last longer. We discussed in some depth the fact that punishment is not the technique of choice because it generates conditioned emotionality, produces generalized conditioned inhibition, generates counter-control, gives rise to avoidance behavior, and suppresses behavior only temporarily. We discussed these rules for effective use of punishment:

Rule 1--Clearly specify the target behavior
Rule 2--Precisely define the punishment procedure
Rule 3--Apply the procedure consistently
Rule 4--Always punish contingently
Rule 5--Use punishment in conjunction with some more positive method of behavior change
Rule 6--Avoid positively reinforcing the undesirable behavior while punishing it
Rule 7--Keep records of the changes which take place in the frequency of the target behavior
Rule 8--Before using punishment by contingent stimulation, consult Section 302.04.07.007 of the Commissioner's Rule on Behavior Therapy Modification

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Programmed Student Handout 100- 8
Code 76-12

Texas Department of Mental Health Mental Retardation

The use of Punishment Techniques in the Institutional Setting

Special Note to the Student: The material contained in this handout is organized into small logical "bits" or frames. This has been done to help you learn better. This way of teaching is called programmed instruction. It works like this:

1. You are given a single bit of information which you need to learn. This is called a "frame".
2. After being given an opportunity to learn the bit of information, you are asked a question to see if you were successful in learning it.
3. If your answer to the question was correct, you proceed on to the next frame. However, if you selected a wrong response, you review before proceeding.
4. The study material is so arranged that you do not go on to any new information until you have learned the material you have gone over. This helps you to learn better and faster.

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In this programmed text, we will be discussing the use of punishment techniques in the institutional setting. When you have completed the text, you will be able to:

1. define punishment
2. distinguish punishment from other behavior change techniques
3. list the side effects of punishment
4. carry out punishment procedures in the institutional setting.

Punishment is one of the tools available to help us change behavior. Even though it is better for us to try to use more positive tools than punishment to change behavior, there are times when the positive methods may not work. For example, self-mutilative behavior does not always respond to positive reinforcement methods. If it doesn't, you have to consider using punishment techniques to prevent the client from injuring himself or herself. The important thing for you to remember is to always try positive reinforcement before you turn to punishment.

Before you start using punishment to change behavior, first try ____________ reinforcement methods.

positive

Before we get into our discussion of punishment, we need to get the concept of frequency of behavior clearly in our mind. This is because when we want to see what effect our actions have on the behavior of our clients, we are looking for some change in the client's behavior. When we can see change, we know that our actions, whatever they are, have been useful. The measure that gives the clearest picture of change in behavior is the frequency of behavior.

To see if we have brought about some change in a client's behavior, we look at the ____________ of the behavior.

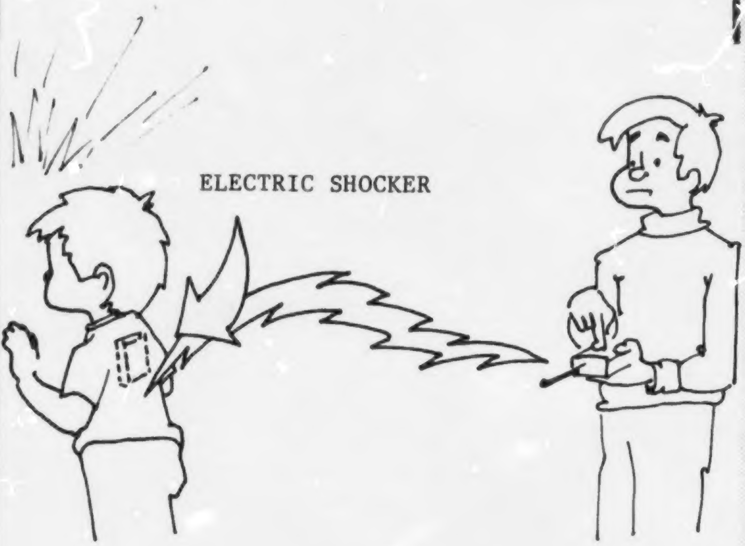
frequency

Frequency means, simply, how many times the behavior occurs. Frequency is used most often to describe changes in behavior because it is an objective measure. That is, it is one aspect of behavior that can be measured accurately and agreed upon.

Frequency means how many times the behavior __________.	occurs
Frequency is said to be an ________________ measure of behavior because it can be ______ accurately and agreed upon.	objective measured
Every behavior has a frequency. Head banging, hand clapping, studying, thinking, exercising, and talking are very different behaviors. However, the fact that they all have frequencies allows us to measure change in each one.	
Every behavior has a __________, which allows us to measure any _______ which occurs in the behavior.	frequency change
We can be certain that if a behavior now occurs only half as frequently as it occurred last week, there is a definite change taking place. Thus, we can see that the concept of frequency is important when we talk about techniques that produce changes in behavior.	
Most behavior modification techniques involve doing something immediately after the behavior we are interested in occurs. As we learned in an earlier unit, when we do something immediately following a behavior, we are affecting the consequences of that behavior.	
When we do something like administer a reinforcement after a behavior, we are affecting the ___________ of that behavior.	consequences
The preceding frame emphasizes an important point. That is,one way of changing the frequency of a behavior is by affecting its consequences.	
You can change the frequency of a behavior by affecting its _______________.	consequences
Suppose that the goal of a particular treatment is to eliminate or weaken some unwanted behavior. If so, consequences can be applied to that behavior to decrease its frequency. When the frequency of some behavior <ins>decreases</ins> as the result of some consequence that follows that behavior, punishment is said to occur. For example, if you administer electric shock to a client who "bangs" his head repeatedly, you are said to be administering punishment.	

Punishment operates to __________ the frequency of behavior.

decrease



INTERVENTION FOR "HEAD BANGING"

Figure 1. Administering electric shock to a client for repeatedly "banging" his head is a form of punishment. The idea is that by presenting the electric shock as a consequence of "head banging" you will cause a reduction in the frequency of such behavior.

From what we have said above, we can see that frequency plays an important part in defining punishment. If a particular consequence produces a decrease in the frequency of a behavior, then and only then can the procedure be called punishment.

Only if a consequence produces a decrease in the ____________ of a behavior can the procedure be called punishment.

frequency

If the consequence in question does not affect the frequency of the behavior, then the procedure cannot be called punishment. Likewise, if we follow some behavior with a consequence that produces an increase in the frequency of the target behavior, we are not using punishment. Punishment is only in effect when a decrease is seen in the frequency of the target behavior.	
Punishment is in effect only when we see a __________ in the ____________ of the target behavior.	decrease, frequency
Review:	
Punishment can be defined as the presentation of some consequence following a behavior that results in the reduction of the frequency of that behavior.	
Using the preceding definition for punishment forces us to distinguish between the act of punishing behavior and the event that is used to punish behavior. The event that can be used to decrease the frequency of behavior is called a punisher. Like punishment, an event is only a punisher if it decreases the rate of the behavior it follows.	
The event you use to decrease the frequency of behavior is called a ____________.	punisher
When you make a decision to use a punishment technique, you must be certain that the event you choose as a "potential punisher" does, in fact, decrease the frequency of the target behavior it follows.	
Like punishment, an event is a punisher if--and only if--it ______________ the rate of behavior that it follows.	decreases
Scolding, electric shock, fines, loud noises, spanking, and taking away toys, are all events that could be punishers for certain behaviors. However, the only way to know whether any of these events could be used as punishers in punishment procedures is to observe the effect they have on the frequency of the behaviors they follow.	

A scolding or a fine always functions as a punisher under all circumstances.

_____True _____False

False

Review:

Any event that does not produce a decrease in the rate of the behavior it follows is not a punisher. This is an important point. It means that there is no such thing as a punisher that does not work. If the frequency of the behavior decreases, the event used to decrease that behavior is a punisher. If the event does not work, then it is not a punisher.

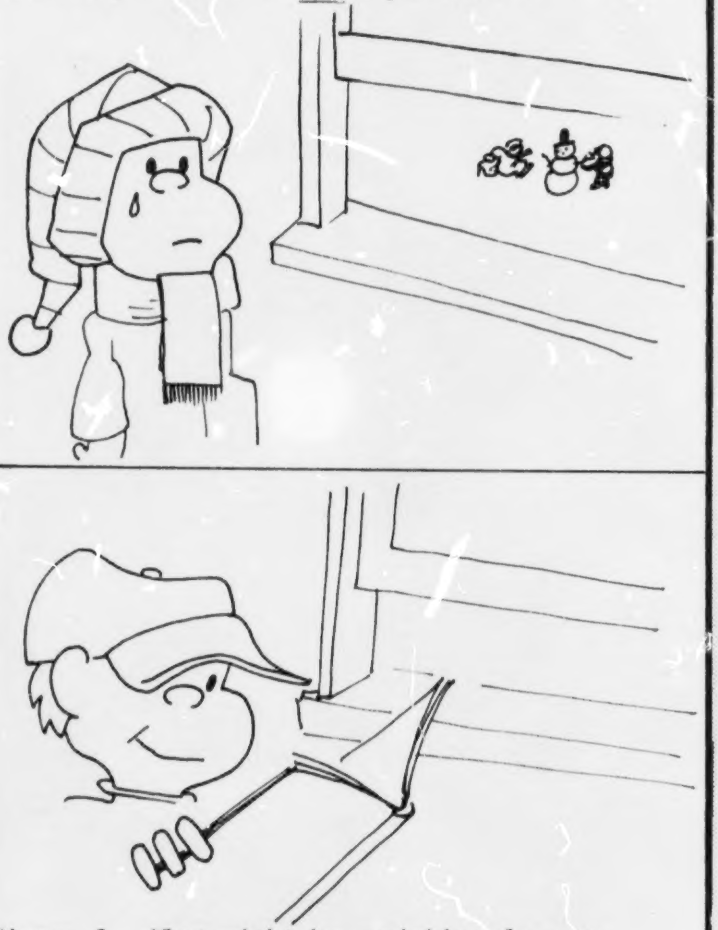


Figure 2. What might be punishing for one person might not be for another. For example, you might be doing some individuals a "favor" by sending them to their room, whereas it might be punishing for another.

Example: Johnny is always leaving his toys outside in the rain. In order to decrease the frequency of this behavior, Johnny's parents "punish" him by making him stay in his room all evening. The next day Johnny leaves his toys outside in the rain again. What can we say about this situation? First, we can say that being made to stay in his room was not an effective punisher for Johnny because there was no decrease in the frequency of the specified behavior. If Johnny's parents were to say, "We tried punishment and it didn't work", it should be pointed out to them that there is no such thing as punishment that doesn't work and that what they thought was punishment was obviously not, because it did not reduce the frequency of the behavior it followed.

It could be that being confined to the bedroom might decrease the behavior of leaving toys outside for one person even though it was not effective with Johnny. This is another very important point.

Another example: Electric shock presented immediately after a child bangs his head might produce a decrease in the frequency of head banging. If so, we could say that electric shock is a punisher for that child in that situation. But for another child, electric shock may not act as a punisher. It is conceivable that for a child who likes electric shock, it could be used to increase the frequency of some behavior. The point is that you never know before the fact that any event is a punisher. An event is only a punisher if it makes a behavior decrease in frequency.

An event that produces a decrease in the frequency of one person's behavior might not produce the same effect with another person.

_____True _____False

True

Most people think of punishment in terms of something being done to an individual that involves pain. However, by the definition we have just developed, punishment can involve any event that decreases the frequency of behavior.

Punishment can be defined as any __________ that __________ the frequency of behavior.

event
decreases

We have been using the term, "event" quite a bit in discussing punishment. This is because an "event" is a convenient way of describing any change from one condition to another. We can talk about the event of presenting a punisher, for example, like a loud noise immediately after some inappropriate behavior occurs.

Event is a term used to describe a _________ from one condition to another.

change

Keep in mind also that punishment can involve removing some positive event. In both kinds of punishment, the effect is judged on the same basis. That is, the event following a behavior decreases the frequency of that behavior, then the event is described as a punisher. This includes the removal of a positive event as well as the presentation of a negative one.

Removal of a positive event as a consequence of an individual's behavior is a form of _______ .

punishment

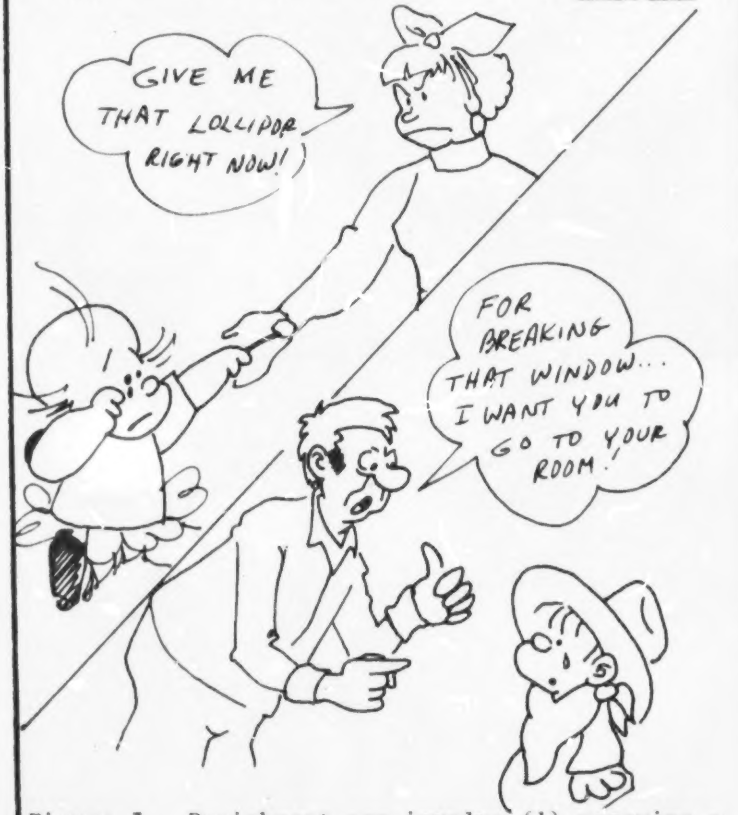

GIVE ME THAT LOLLIPOP RIGHT NOW!
FOR BREAKING THAT WINDOW... I WANT YOU TO GO TO YOUR ROOM!

Figure 3. Punishment can involve (1) removing a positive event or (2) presenting a negative event.

Review: The removal of a reinforcer following a response can be defined as a punishment procedure. The result of this procedure is a reduction in the frequency of the response with which it is associated. If the removal of a reinforcer in this manner results in a reduction, the removal can be thought of as a punisher.	
In the institutional setting, social contact, privileges, cigarettes, snacks, activities and tokens are all examples of positive reinforcers that might be available to use in procedures involving punishment by removal of reinforcement.	
Removal of reinforcers such as privileges is an example of ____________.	punishment
Punishment by removal of reinforcement is thought by some to have an advantage over punishment procedures that involve presentation of unpleasant events. This advantage has to do with the fact that the reinforcers which are removed in this sort of punishment procedure can be used almost immediately as a means of strengthening desirable behavior that could take the place of the undesirable behavior that is being eliminated.	
An advantage of using removal of positive reinforcers as a means of punishment is that you can use the withdrawn reinforcers to strengthen other, more desirable behaviors. _____True _____False	True
When the goal of your treatment is to eliminate or decrease the frequency of some undesirable behavior, it is sometimes a good idea to consider some alternative behavior in which the client can be encouraged to engage. This is because, if there is some other behavior the client can be reinforced for in the place of the undesirable behavior, the undesirable behavior will be eliminated sooner and with fewer bad effects. Behavior that is strengthened so that it occurs in the place of undesirable behavior is sometimes referred to as "incompatible behavior".	
"Incompatible behavior" is behavior which is reinforced in place of the undesirable behavior you are trying to get rid of. _____True _____False	True

Reinforcing an incompatible behavior, so as to have it occur in the place of some undesirable behavior, helps make the effects of a punishment procedure last longer. This is because behaviors that are incompatible are those that cannot occur at the same time. For example, standing up is incompatible with sitting down. Pressing the lips together is incompatible with holding the mouth open. If behavior which is incompatible with an undesirable behavior is reinforced while punishment procedures are being used, it is more "worth the client's while" to give up--or stop--the inappropriate behavior. To help make the effects of a punishment procedure last longer, it is a good idea to reinforce ________ behavior.	incompatible
Although the effect of punishment on the frequency of behavior can be clearly measured, side effects are sometimes produced by the use of punishment that are not so clearly understood. As a result, the effects of punishment are less predictable upon behavior than are effects that result from other procedures using positive reinforcement. Which effects on behavior are less predictable? (a) those resulting from use of punishment (b) those resulting from positive reinforcement	(a)
Punishment for an undesirable behavior often produces a variety of unwanted side effects that get in the way of building up a desirable behavior. To illustrate, at some time or another, we have all been the subjects of punishment and are familiar with the feelings of anger, fear, hostility or dread we experience when we were punished. Technically, these feelings are called "conditioned emotionality". They are universally encountered with the use of punishment. The feelings we encounter when using punishment are called "________ ____________".	conditioned emotionality
The state we described as "conditioned emotionality" could involve feelings of ______,______ and __________.	anger, fear dread
Conditioned emotionality has been observed in rats, pigeons, dogs, primates and humans who	

have been subjected to punishment procedures. If we were to analyze human interactions behaviorally, we could identify some type of punishment present in any situation where feelings of fear, anger, hostility or dread are involved. These feelings are the by-product of punishment. When they are present they interfere with the learning of appropriate behaviors.	
The feelings which we described as being representative of "conditioned emotionality", and which are the by-products of ________ interfere with learning appropriate behavior.	punishment
Another effect of punishment that is usually observed along with conditioned emotionality is called "generalized conditioned inhibition", which operates to keep desirable behaviors from occurring, in addition to undesirable ones which are your target.	
"Generalized conditioned inhibition" may also accompany use of punishment procedures. This operates to keep undesirable behaviors from ________, in addition to the undesirable ones which are your target.	occurring
Inhibition means ________ something from occurring.	preventing
We need to keep in mind that punishment is likely to inhibit more behaviors than the one that is directly punished. As a result, the use of punishment might make some appropriate, desirable behaviors less likely to occur. For example, punishing someone over a long period of time for talking out at inappropriate times may make the individual stop talking even on appropriate occasions. This is an example of the effects of punishment generalizing across unexpected dimensions. The result of such generalization often interferes with producing desirable behavioral outcomes.	
A danger in using punishment is that it could ________ behaviors other than the one that you are punishing.	inhibit
Another effect of punishment that we need to keep in mind is that of "counter control". This concept has to do with the association of punishment by a client with the agent or individual that administers the punishment. The result is	

usually fear or resentment directed towards the punishing agent. The individual who is being punished is then less likely to perform desirable behavior when he is scared or angry, as a result of being punished. Quite simply, desired behavior is less likely to occur when punishment is being employed as a means of decreasing other behavior. Counter control is observed readily in places like prisons where punishment is often the primary method of controlling behavior. Fearful and angry inmates--living under the constant threat of punishment--show little positive, desirable behavior.	
In "counter control", an individual associates punishment with the individual who administers the punishment, with associated fear and resentment operating to reduce the likelihood of more __________ behavior occurring.	desirable
An additional aspect of "counter control" involves the tendency of an individual to avoid all aspects of the situation in which punishment is administered. When an individual avoids the punishing agent, the amount of control that the agent is capable of exerting decreases considerably.	
If an individual takes action to avoid the punishing agent, then the amount of __________ that the agent is capable of exerting on the individual's behavior is __________.	control decreased
Another reason why punishment is not the method of choice for dealing with undesirable behavior has to do with the fact that its effects are often only temporary. Keep in mind that behavior that requires punishment in order to reduce its frequency got that way because it is maintained by very powerful reinforcers. Consequently, when a punishment procedure directed against the behavior is discontinued, it is likely that the target behavior will occur again unless the reinforcers that have functioned to maintain the behavior are made "inoperable". In practice, the frequency of an undesired behavior is only suppressed so long as it is punished. When punishment is removed the behavior more often than not emerges again.	
A disadvantage of punishment is that it only __________ behavior, with the behavior tending to recur when punishment is __________.	suppresses discontinued

Although punishment decreases the frequency of an undesirable behavior, it is not the technique of choice because it has these disadvantages:

1. Punishment generates conditioned emotionality
2. Punishment produces generalized conditioned inhibition
3. Punishment generates counter-control
4. Punishment gives rise to avoidance behavior
5. Punishment only temporarily suppresses behavior.

QUIZ

List five disadvantages of punishment.

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________

SOLUTION

Punishment involves these five disadvantages:

1. Punishment generates conditioned emotionality
2. Punishment produces generalized conditioned inhibition
3. Punishment generates counter-control
4. Punishment gives rise to avoidance behavior
5. Punishment only temporarily suppresses behavior.

If you have to use a punishment technique, make sure that the target behavior (the behavior that will be punished) is clearly specified. This is the behavior that will be occurring when the punisher is administered. In order to decrease the frequency of the target behavior, this particular behavior should be defined precisely and should be the only behavior to be punished.

When using punishment, it is necessary to precisely define the _________ behavior and to make sure that you only _________ this behavior.

target
punish

When using punishment, take particular care to specify:

1. what the punisher will be

2. who will administer the punisher

3. for how long the punisher will be delivered

4. what information should be recorded

5. what alternative behavior will be reinforced

When using punishment you should always specify what the ___________ will be; who will ______ the punisher; how ________ the punisher will be delivered; what information should be _________; and what ______________ behavior will be reinforced.

punisher, administer
long
recorded
alternative

Remember this: Apply the procedure consistently. Punishment will not work effectively if the target behavior is punished just sometimes. A punishment procedure will reduce the frequency of the target behavior in a short period of time if it is applied each time the unwanted behavior occurs. After the frequency of the target behavior has decreased, by consistent application of punishment, the punishment can be discontinued, and more positive methods of therapy can take its place. Failure to consistently punish the unwanted behavior is almost certain to make sure that the punishment procedure will have to be used over a long period of time. Consistent application can help you avoid a long drawn out punishment procedure.

If you wish to decrease the frequency of an undesirable behavior by using punishment, administer the punishment _________________.

consistently

Punish contingently. This is because punishment will work best if the punisher is applied while the problem behavior is occurring. If punishment is delayed for too long, it will work

on some other behavior, perhaps one which is desirable. By contingently, we mean that the punishment you administer is dependent upon display of the clearly defined target behavior you are dealing with. You punish if, and only if, this target behavior is displayed. You also punish immediately.	
Punishment works best if it is contingently applied. That is, you apply the punisher while the __________ behavior is occurring.	target
For best results, always use punishment in conjunction with some more positive method of behavior change. This is because punishment alone does not always give a person information as to what the desired behavior is. In order to replace the undesired behavior more efficiently with acceptable alternatives, prompt and reinforce behaviors that are incompatible with the unwanted behavior.	
Punishment should always be used alone in attempting to deal with undesirable behavior. ____True ____False	False
Always make certain that the unwanted behavior is not being reinforced. Many times, an undesirable target behavior may be maintained by attention or some other powerful reinforcer. Obviously punishment will be most effective when the environment is arranged in such a way as to eliminate the possibility that any reinforcers come into contact with the target behavior, and operate to maintain it despite your efforts at punishment.	
When you are conducting a punishment program which is directed towards eliminating a specific target behavior, you should make sure that the target behavior is not being __________ by attention or some other powerful reinforcer.	reinforced
Be sure to keep accurate records of the changes in frequency of the target behavior. So that you can be sure what effect that punishment is having on the target behavior, you must record each instance of punishment and its effect. Judgements regarding changes or discontinuation of punishment procedures should then be made on the basis of such records.	

Why should you keep records concerning changes in the frequency of the target behavior?

____
____
____
____
____.

Consult the Commissioner's Rules for the use of punishment by contingent stimulation before employing any punishment procedure.

These rules are found in Section 302.04.07.009 of the Commissioner's Rule, Texas Department of Mental Health and Mental Retardation on Behavior Therapy Modification.

Before implementing any program which employs punishment, what should you do?

____
____
____
____.

SUMMARY

During this programmed text, we have discussed the use of punishment as a tool for changing behavior. We saw that punishment can be defined as the presentation of some consequence following a behavior that results in reducing the frequency of that behavior. We mentioned that scolding fines, electric shock, loud noises, spanking and taking away toys can be punishers for certain individuals. Importantly, we established that what is punishing for one individual may not be punishing for another one. We also noted that the removal of a positive reinforcer following an undesirable behavior can qualify as a punishment procedure--provided its removal results in a reduction in the frequency of the behavior in question. Defining and reinforcing behavior which is incompatible with an undesirable behavior was also discussed as a useful technique. This has the tendency to make the effects of a punishment procedure last longer. We discussed in some depth the fact that punishment is not the technique of choice because it generates conditioned emotionality, produces generalized conditioned inhibition, generates counter-control, gives rise to avoidance behavior, and

So you can see what effect, if any, your punishment program is having on the target behavior.

Consult the Commissioner's Rule on Behavior Therapy Modification.

suppresses behavior only temporarily. We discussed these rules for effective use of punishment:

Rule 1--Clearly specify the target behavior
Rule 2--Precisely define the punishment procedure
Rule 3--Apply the procedure consistently
Rule 4--Always punish contingently
Rule 5--Use punishment in conjunction with some more positive method of behavior change
Rule 6--Avoid positively reinforcing the undesirable behavior while punishing it
Rule 7--Keep records of the changes which take place in the frequency of the target behavior
Rule 8--Before using punishment by contingent stimulation, consult Section 302.04.07-.007 of the Commissioner's Rule on Behavior Therapy Modification

Student Quiz 100- 8
Code 76-12

Texas Department of Mental Health and Mental Retardation

THE USE OF PUNISHMENT TECHNIQUES IN INSTITUTIONAL SETTINGS

Multiple Choice Questions

1. Which measure gives the clearest picture regarding a change in a target behavior which is being dealt with under a punishment program?

   a. frequency of the target behavior
   b. magnitude of change in the target behavior
   c. length of time between behavioral episodes
   d. none of the above

2. When we do something immediately following a target behavior, we are

   a. being overly anxious to administer reinforcement
   b. apt to strengthen the behavior in question
   c. affecting the consequences of the target behavior
   d. violating one of the principal rules of behavior modification

3. When we apply a consequence to a particular behavior which results in a decrease in the frequency of behavior we have

   a. administered a functional reward
   b. administered a punishing circumstance
   c. substituted a desirable behavior for an undesirable one
   d. none of the above

4. Punishment is only in effect when

   a. the client is physically hurt
   b. a physical stimulus is used
   c. the frequency of the target behavior is decreased
   d. none of the above

5. The event used to decrease the frequency of a behavior is technically defined as a

   a. reinforcer
   b. punisher
   c. physical stimulus
   d. a or b

6. Which of the following is a punishment procedure

   a. removal of a reinforcement such as privileges
   b. having a client run two laps around a baseball field
   c. attending to a client who has created a disturbance
   d. none of the above

7. Incompatible behavior is defined as

   a. behavior we wish to remove from the client's behavioral repertoire
   b. behavior that we wish to occur in place of the behavior we are attempting to remove by punishing it
   c. behavior that is not condoned by the institution
   d. none of the above

8. Which of the following might be an example of "conditioned emotionality"?

   a. fear
   b. hostility
   c. dread
   d. all of the above

9. Which of the following is an example of counter-control?

   a. the decrease in behavior which can be obtained when two behavioral countermeasures are used instead of one
   b. the association of punishment by the client with the individual who administers it, so that they are scared or angry when the individual is around
   c. control over the reinforcement situation by the client rather than the staff member
   d. none of the above

10. Which of the following are considered to be a disadvantage of punishment?

   a. its tendency to generate conditioned emotionality
   b. its tendency to bring into play avoidance behavior
   c. its tendency to suppress behavior temporarily
   d. all of the above

True False Questions

11. A principal advantage of punishment is that it generates the conditioned emotionality which is needed to change a client's behavior.

_____True _____False

12. When using a punishment technique, you have to make sure that the target behavior is clearly specified.

_____True _____False

13. Punishment only temporarily suppresses behavior.

_____True _____False

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14. In order to decrease the frequency of the target behavior, you need to punish all behaviors which occur at about the same time that the target behavior occurs.

_____True   _____False

15. Punishment will work better if the target behavior is only punished intermittently, i.e., only sometimes.

_____True   _____False

16. You should always use punishment along with some more positive method of behavior change, such as reinforcement of acceptable alternatives.

_____True   _____False

17. Punishment works best if it is applied contingently, i.e., when the undesirable behavior is occurring.

_____True   _____False

18. One of the advantages of punishment is that it alone gives the client adequate information as to what the desired behavior is.

_____True   _____False

19. To be certain what effect punishment is having on the target behavior, you need to record each instance of punishment and its observed effect.

_____True   _____False

20. Punishment involves the presentation of some consequence following a particular behavior which results in a reduction in the frequency of that behavior.

_____True   _____False

Completion Items

21. Which information should be clearly specified when using punishment.

a. ____
b. ____
c. ____
d. ____

22. To replace an undesirable behavior with an acceptable alternative, you should prompt the replacement behavior and __________ it.

23. Punishment will be more effective if you arrange the environment in such a way that you prevent any ________ coming into contact with the target behavior.

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24. Before employing any punishment procedure, you should consult the ______ ______ on behavior therapy modification.

25. The measure which gives the clearest picture of a change in behavior is the __________ of the behavior.

Solution to Student Quiz 100- 8
Code 76-12

Texas Department of Mental Health and Mental Retardation

THE USE OF PUNISHMENT TECHNIQUES IN INSTITUTIONAL SETTINGS

1. a
2. c
3. b
4. c
5. b
6. a
7. b
8. b
9. b
10. d
11. False
12. True
13. True
14. False
15. False
16. True
17. True
18. False
19. True
20. True
21. a. who will administer the punisher
    b. for how long will the punisher be delivered
    c. what information should be recorded
    d. what alternative behavior will be reinforced
    e. clearly specify what the punisher will be

22. reinforce
23. reinforcer
24. Commissioner's Rule
25. frequency

TAB I

A SUGGESTED PROCEDURE FOR SETTING UP A BEHAVIOR MODIFICATION REGIMEN

Following is a step-by-step procedure which can be used to guide trainer behavior systematically with regard to the activities of problem selection, assessment, and modification while also giving suitable attention to the client's special needs.

STEP 1. INVENTORY OF PROBLEM AREAS

OBJECTIVE. To assess the spectrum of presenting problems.

RATIONALE. To provide the trainer with a profile of problem areas so that priorities can be assigned and a decision made regarding which problem will be addressed first.

METHOD. The trainer obtains the descriptions of presenting problems from family and staff, and then, by interview, lists the more conspicuous problems he discerns. At this particular time, he ordinarily makes every effort to specify details of the form of the behaviors or their situational context or history. The focus is on getting an idea of the spectrum of the problem areas characteristic of the client.

STEP 2. SPECIFICATION OF TARGET BEHAVIORS

OBJECTIVE. To define the specific behaviors of the client that constitute the essential elements of the selected problem area to be dealt with in the behavior modification program.

RATIONALE. In this step, the trainer makes an effort to determine the exact behavioral referents of the labels used for describing the problem, as well as to discover desirable behaviors that may be incompatible with the undesirable behaviors.

METHOD. Samples of problem behavior and desirable alternatives are developed. Relevant examples are collected via interview, reports of others, and, when possible, the behavior itself is observed by the trainer as it occurs in the client's natural environment.

STEP 3. BASELINE OF TARGET BEHAVIORS

OBJECTIVE. To obtain a preintervention estimate of the frequency, magnitude, or duration of the specified problem behaviors. This should be quantitatively expressed and carefully measured for a suitable period prior to intervention.

RATIONALE. Baseline information is invaluable in that it provides the trainer with a concrete, quantitative basis for judging the severity or seriousness of the problem. As a baseline, the data provide an important standard against which the success of the intervention undertaken may be assessed. Also, baselines and the monitoring of changes that follow intervention provide the trainer with feedback which will help him determine the most effective modification techniques to be used for specific problem behaviors.

METHOD. The trainer obtains prebaseline estimate of the frequency, magnitude, and duration of problem behavior.

Information for the baseline period may consist of records kept by the trainer or others or those obtained by such devices as tape recorders or special monitoring devices. If records are kept by family members, the recording method should be made as simple, accurate, systematic, and unobtrusive as possible.

Some baselines can be obtained in a relatively short period, provided that the problem behaviors occur frequently (e.g. head banging). Other less frequent behaviors might require a considerably longer period for adequate baselining.

The results of the baseline may disclose that a problem behavior does not merit intervention. If the problem behaviors are found to be sufficiently intense, frequent, or if long enough duration to justify intervention, then the following subsequent steps are undertaken.

STEP 4. IDENTIFICATION OF PROBABLE CONTROLLING CONDITIONS

OBJECTIVE. To isolate the stimuli that precede and follow the problem behavior and which serve to control its occurrence.

RATIONALE. The behavioral therapy approach assigns significance for controlling behavior to discriminative and eliciting stimuli that immediately precede behavior and to the reinforcing stimuli that immediately follow it. The current controlling conditions (seen as the stimuli directly preceding or following behavior) tend to either maintain the problem behavior or, by some deficit in their operation, fail, on the other hand, to sustain desirable behavior.

For operant behavior, such as temper tantrums and rowdiness, the controlling conditions seem to be the reinforcing stimuli that follow the behavior and the discriminative stimuli that occasion the emission of such so-called voluntary behavior.

It is important to keep in mind that problem behaviors may be identical in form but have different controlling conditions or that there may be those that are different in form, which nevertheless may have similar or identical controlling conditions. Thus, it is essential to identify the maintaining conditions for all problem behaviors, since this knowledge affects the selection and use of a given modification technique.

METHOD. In this step, specific information is obtained concerning what happens before, during, and after the emission of problems behavior.

The methods of obtaining information are the same as those referred to in Step 3, and the same criteria for method selection applies. The important thing to keep in mind is that accurate and reliable data are required for the successful execution of the various procedural steps involved in behavior modification programs.

STEP 5. ASSESSMENT OF ENVIRONMENTAL RESOURCES

OBJECTIVE. To determine what environmental resources may be used in the modification of behavior.

RATIONALE. Without access to the controlling stimuli in the client's environment, the trainer cannot hope to be able to effect stimulus changes designed to reduce the problem behavior or accelerate desirable alternatives. Typically, determination of environmental resources requires an assessment of (1) available mediators, such as parents, siblings, or peers who may function as auxiliary training agents, (2) available reinforcers, and (3) available stimulus contexts in which specific interventions may be used.

METHOD. Many times the needed environmental resource information is known to the trainer, with no additional inquiry being necessary. However, if there is some doubt concerning environmental resources, the following aspects of the environmental resource assessment procedure should be considered.

1. With regard to potential mediators, it may be necessary for the trainer to interview various family members and others to see who among them might be willing to cooperate and to identify those who would have the ability to alter stimulus conditions so as to bring about desired changes in client behavior.

2. With regard to potential reinforcers for use with a client, it may be sufficient to determine those activities which the client engages in during his free time. Available

research suggests that behaviors that occur with a high frequency may be used to reinforce behaviors that occur less frequently.

STEP 6. SPECIFICATION OF BEHAVIORAL OBJECTIVES

OBJECTIVE. To specify the behavioral objectives of the modification play.

RATIONALE. If the trainer is to intervene efficiently, he must specify (1) what the client's terminal behavioral repertoire should consist of with respect to the problem area and (2) the stimulus conditions under which the components of the repertoire are to occur. Also, it is usually helpful to specify a series of successive approximations to the desired terminal behavior. Actually what the trainer needs is to specify the behaviors that the client should be helped to acquire, strengthen, maintain, weaken, or eliminate. This in turn requires that the behaviors be specified as to their form; the frequency, intensity, or duration with which they are to occur; and the stimulus context in which they are to take place.

METHOD. The baseline and assessment information gathered earlier will have revealed the specific responses to be dealt with. Undesirable behaviors require objectives designed to reduce or eliminate these behaviors. Desirable behaviors that occur too infrequently suggest development of objectives that emphasize acquisition, strengthening, or maintenance of the behaviors in question.

STEP 7. FORMULATION OF A MODIFICATION PLAN

OBJECTIVE. To select an appropriate behavioral modification role for the trainer and the modification techniques he will use in achieving the desired behavioral objectives.

RATIONALE. In addition to specifying intermediate and terminal behaviors, the trainer needs to select both a behavioral modification role (or direct intervention) and the appropriate modification techniques to use with that role. These techniques are used to alter a maintaining condition for problem behavior, to accelerate a desirable behavior alternative, or both.

METHOD. When formulating a modification plan, the trainer first reviews the information he obtained in prior steps, particularly that which pertains to the problem area. Also, in developing the plan, the trainer must keep these points in mind:

1. The client must correctly discriminate the behavior he is to carry out and the appropriate stimulus context for its emission.

2. The behavior to be carried out must be present in the person's repertoire.

3. Stimulus conditions under which the behavior is to be carried out must be available in the environment. As stressed earlier, an important component of these stimulus conditions is the cue that controls the emission of the appropriate behavior; otherwise, the person may "forget" to engage in the behavior. We discussed this in connection with training the retarded individual to use the toilet properly.

Selecting the most suitable technique is an improtant part of formulating the modification plan. There are several guidelines for technique selection to follow. For example, the operant techniques (e.g. positive reinforcement, negative reinforcement, extinction, differential reinforcement, response shaping and punishment) are generally most effective with behavioral difficulties which involve primarily operant behavior. Should the behavioral problem fall more into the area of respondent behavior, respondent techniques such as classical conditioning or systematic desensitization might be considered. More complex techniques such as stimulusshaping ("fading"), verbal instructions, behavioral rehearsal (role-playing), rule-making, and model presentation may be applied to problems involving both operant and respondent behavior.

Some techniques considered will apply mainly to acquisition, others to strengthening or maintenance, while others will apply to weakening and eliminating behavior. Behaviors which occur in deficit call for techniques that will strengthen them. If the deficit responses are not in the client's repertoire, they must be established with techniques pertaining to response acquisition being applicable for this purpose.

The trainer must also concern himself with the effectiveness of alternative techniques for handling the same behavioral problems. For example, with most of the techniques pertaining to operant behavior, there is considerable evidence showing that when they are appropriately used, they have a high probability of being successful. Also, when given a choice, techniques to accelerate desirable behavioral alternatives should be selected instead of techniques that serve merely to decelerate undesirable behaviors.

Obviously when possible, the most efficient techniques in terms of time and effort should be selected. Also, techniques which have a greater feasibility for implementation are preferred over those which are more difficult to execute.

STEP 8. IMPLEMENTATION OF MODIFICATION PLAN

OBJECTIVE. To modify or maintain behavior with respect to the modification objectives and the contract made with the client.

RATIONALE. To focus the trainer's modification efforts, he should intervene only after the completion of the assessment. This prevents him from intervening before he knows precisely what the problem behaviors are, their seriousness by his own standards, and the feasibility and appropriateness of his proposed intervention.

METHOD. The interventions are carried out according to the developed plan. No other interventions are engaged in without completing appropriate earlier steps of the process we are describing. If the plan cannot be carried out as formulated, the trainer tries to find the reason for this and then plans accordingly.

STEP 9. MONITORING OUTCOMES

OBJECTIVE. To obtain information concerning the effectiveness of intervention.

RATIONALE. Feedback to the trainer concerning the effectiveness of intervention is essential because it serves to control both the client's and trainer's behavior in several ways. For example, monitoring outcomes enables the trainer to ascertain whether the modification effort has been successful (and in the long run provides crucial information concerning the efficacy of various techniques). Based on such information, the trainer can not only modify his intervention approach in the situation at hand, but can also alter his approach to future interventions.

METHOD. By means of the data-gathering techniques discussed earlier, the intervention outcomes can be monitored during the period when the intervention is first introduced and at later periods. Changes that occur in the problem behavior are of greatest interest. Thus, it is important to keep records concerning the emission of these behaviors. If the desired terminal behaviors occur after the intervention plan has been introduced, the trainer may then proceed to the following step. However, if these behaviors do not occur following intervention, the trainer must try to determine the reason why and, if necessary, return to the appropriate earlier step. He has failed and must try again -- perhaps many times. As a therapeutic agent, behavior modification requires patience, consistency and persistence.

STEP 10. MAINTENANCE OF CHANGE

OBJECTIVE. To achieve the maintenance and stabilization of the desired terminal behaviors for which intervention was undertaken.

RATIONALE. Following successful intervention, a program of maintenance and stabilization will be required to insure that the desired terminal behaviors are maintained at an appropriate level. Plans for maintenance should be directed toward establishing those conditions that will enable the desired terminal behaviors to persist in the natural environment independent of the trainer's influence.

METHOD. Where possible, it is desirable to use reinforcers natually available in the environment to maintain desired behavior. Also, relative, friends, and others may have found the client's problem behavior objectionable and may reinforce desirable behavioral changes. Use of these resources will require that they be trained in the "art" of being appropriate reinforcement agents. The ultimate aim of course is to assure client self-control. This follows from the concept that clients can be trained to manage their own behavior through self-manipulation of environmental factors that control the behavior.

Behavior Therapy Modification Programs
302.04.07.001 - .015

Statutory Authority: Art. 5547-202, Sec. 2.11(b), V.A.C.S.

.001. Purpose. The purpose of these rules is

(1) To establish Departmental rules to facilitate appropriate implementation and use of planned therapeutic, habilitative or educational programs using Behavior Therapy Modification techniques.

(2) To provide for the establishment and specification of the responsibilities of the Departmental Committee on Behavior Therapy Modification.

(3) To provide for the establishment and specification of the responsibilities of the Facility Committee on Behavior Therapy Modification.

(4) To specify exceptions to these rules.

.002. Application. These rules apply to all facilities of the Texas Department of Mental Health and Mental Retardation.

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.003. Definitions. In these rules,

(1) "Behavior Therapy Modification" means the control of selected behaviors through the consistent and systematic manipulation of both antecedent and consequent stimuli. Behavior Therapy Modification is a formalized set of techniques and training procedures based upon principles of learning and is intended to establish, alter or eliminate specific responses or chains of responses.

(2) "Negative Reinforcement" means the procedure in which the emission of a previously specified response results in the removal or termination of an ongoing, aversive stimulus and results in an increase in the rate of that response.

(3) "Time-out" means a procedure which decreases the frequency of a behavior by removing the individual from reinforcing events or situations for a brief specified period of time. A well designed time-out procedure not only includes specific criteria for initiating a time-out period, but also includes definite criteria for terminating the period. Time-out shall not be construed as an "Aversive Stimulus" unless it utilizes Restraint or Seclusion.

(4) "Response Cost" means a procedure in which a positive reinforcer is lost or some penalty is invoked contingent upon inappropriate behavior. Fines and withdrawal of privileges represent common forms of response cost. Response Cost shall not be construed as an "Aversive Stimulus".

(5) "Punishment by Contingent Stimulation" means a procedure in which an aversive stimulus is presented immediately following the emission of a previously selected response. This procedure results in a decrease in the rate or total elimination of the inappropriate response.

(6) "Aversive Stimulus" means a stimulus which is undesirable (un-

pleasant or noxious) such that its effect is the suppression of the specific behavior upon which it is immediately contingent. For purposes of these rules, such stimuli include tactile (including faradic), olfactory, auditory, gustatory and other stimuli which result in acute physical discomfort or pain.

(7) "Informed Consent" means the knowing consent of an individual or his legally authorized representative, so situated as to be able to exercise free power of choice without undue inducement or any element of force, fraud, deceit, duress or other form of constraint or coercion. The basis elements of information necessary to informed consent include:

(A) A fair explanation of the procedures to be followed, and their purposes, including identification of any procedures which are experimental.

(B) A description of any attendant discomforts and risks reasonably to be expected.

(C) A description of any benefits reasonably to be expected.

(D) A disclosure of any appropriate alternative procedures that might be advantageous for the subject.

(E) An offer to answer any inquiries concerning the procedures.

(F) An instruction that the person is free to withdraw his consent and to discontinue participation in the project or activity at any time without prejudice to the subject.

(8) "Department" means the Texas Department of Mental Health and Mental Retardation.

(9) "Commissioner" means the Commissioner of the Texas Department of Mental Health and Mental Retardation.

(10) "Superintendent" means the superintendent or director of a faci-

lity of the Department.

(11) "Patient or Resident" means any person receiving the services of the facility as a resident or in any outpatient or outreach program of the facility.

(12) "Behavior Therapy Modification Director" means the individual appointed by the Superintendent and approved by the Departmental Committee on Behavior Therapy Modification to chair the Facility Committee on Behavior Therapy Modification, represent the Facility Committee to the Departmental Committee, consult with program directors, and coordinate activities of the Facility Committee. The Behavior Therapy Modification Director shall be knowledgeable in the specifics of Behavior Therapy Modifcation principles and theory as well as have had applied experience in Behavior Therapy Modification techniques.

(13) "Program Director" means the person at the unit level who is responsible for the development, coordination, implementation and evaluation of individualized patient or resident programs in Behavior Therapy Modification on that unit. Coordination may involve obtaining approval for the program from the Unit Director (or Team Coordinator) as well as his or her subsequent commitment to provide adequate staff hours for implementation of the program.

(14) "Formalized Behavior Therapy Modification Program" means a written statement of the application of Behavior Therapy Modification techniques to one or more patients or residents which contains clear specifications of behavioral objectives, reliable and representative baseline data, detailed procedures for implementing the program, methods for evaluating program effectiveness, alternate treatment strategies, and procedures for making needed

program revisions.

(15) "Psychiatrist" means a physician licensed to practice Medicine in Texas who has had at least three years formal training in Psychiatry or is a Diplomate in Psychiatry of the American Board of Psychiatry and Neurology.

(16) "Psychologist" means a person certified or licensed to practice Psychology in Texas.

(17) "Behavioral Crisis" means

(A) The overt behavior of the patient or resident is manifestly dangerous to the life or safety of others, or

(B) The overt behavior of the patient or resident constitutes an imminent danger to the life or health of the patient or resident and is so confirmed in writing in the clinical records of the patient or resident by a Licensed Physician, and

(C) The patient's or resident's condition is such that other therapeutic approaches are precluded or are ineffective.

.004. General Priciples Regarding Control of Behavior Therapy Modification Program. (a) The Texas Department of Mental Health and Mental Retardation recognizes the use of Behavior Therapy Modification principles, techniques, and procedures as a useful approach to the treatment and development of its patients and residents. The Department further recognizes, however, that it must determine the limits of such techniques and the process for the initiation and monitoring of these techniques in keeping with the needs of patients or residents.

(b) The nature of Behavior Therapy Modification Programs is such as to require direction and supervision of all such programs operated in facilities of the Department through an established set of committees at the facilities and in the Department and by specification of qualifications and training of personnel involved in Behavior Therapy Modification Programs.

.005. The Departmental Committee on Behavior Therapy Modification: Membership, meetings and duties. (a) The Departmental Committee on Behavior Modification shall consist of at least seven persons to be appointed by the Commissioner, one person to represent at least each of the following:

(1) Central Office Mental Health Services
(2) Central Office Mental Retardation Services
(3) Central Office Program Support Services
(4) Legal and Claims Office
(5) The State Schools
(6) The State Hospitals

(b) Members must be knowledgeable of the theory and specific techniques of Behavior Therapy Modification.

(c) Members shall serve for terms as determined by the Commissioner.

(d) The Chairperson shall be appointed by and shall serve at the pleasure of the Commissioner.

(e) The Departmental Committee on Behavior Therapy Modification shall meet at least once each month at such time and place as may be determined by the Chairperson.

(f) The Chairperson shall prepare an agenda and shall cause minutes to be kept of all actions or decisions taken by the Departmental Committee and shall provide a copy of such minutes to the Commissioner.

(g) A quorum shall be a simple majority of the Committee.

(h) The majority vote required for action to be taken by the Departmental Committee on Behavior Therapy Modification shall be the vote of a simple majority of a quorum at a meeting.

(i) Duties of the Departmental Committee on Behavior Therapy Modification shall be as follows:

(1) Approve or disapprove all programs that utilize Punishment by Contingent Stimulation

(2) Approve the appointment of a Behavior Therapy Modification Director for each facility.

(3) With the assistance of representatives of the Facility Committees, develop an evaluation process including evaluation procedures for programs utilizing Punishment by Contingent Stimulation.

(4) Require one evaluation procedure each year including a written report from each facility that has utilized programs employing Punishment by Contingent Stinulation. This documentation shall include, but not be limited to, the complete written treatment or curriculum description prepared for each program utilizing Punishment by Contingent Stimulation, and the recorded progress of each patient or resident in the program.

(5) Make at least one on-site visit per year to programs employing Punishment by Contingent Stimulation for the purposes of evaluation.

(6) Develop and approve staff training objectives and curriculum in accordance with Rule .010 of these rules.

.006. Facility Committee on Behavior Therapy Modification: Membership, meetings and duties. (a) A Facility Committee on Behavior Therapy Modification shall be established at each facility where Behavior Therapy Modification Programs are conducted.

(b) The Facility Committee shall consist of not less than three and not more than five members of whom one shall be the Behavior Therapy Modification Director and the others of whom shall be appointed by and shall serve at the pleasure of the Superintendent of the facility. Members must be knowledgeable about the techniques of Behavior Therapy Modification.

(c) The Behavior Therapy Modification Director shall serve as Chairperson.

(d) The Facility Committee shall meet at least once each month or at such other times as may be specified by the Superintendent or by the Chairperson with the approval of the Superintendent.

(e) The Chairperson shall cause minutes to be kept of all actions or decisions of the Committee and shall provide a copy of the minutes to the Superintendent.

(f) A quorum shall be a simple majority of the Committee.

(g) The majority vote required for action to be taken by the Facility Committee shall be the vote of a simple majority of a quorum at a meeting.

(h) Duties of the Facility Committee on Bheavior Therapy Modification shall be as follows:

(1) Review and approve all Formalized Behavior Therapy Modification programs conducted in the facility.

(2) Establish procedures and guidelines for the use of Behavior Therapy Modification techniques throughout the facility.

(3) Establish guidelines for evaluation of all facility programs, including those programs already in existence, utilizing Behavior Therapy Modification techniques. These guidelines shall be subject to the Superintendent's approval.

(4) Assist the Departmental Committee in the establishment of guidelines for the evaluation of programs utilizing Punishment by Contingent Stimulation.

(5) Review at least annually programs that have received approval, and more frequently at the Committee's discretion, for the protection of the patients or residents served by the programs.

(6) Approve the qualifications of Programs Directors within the facility and determine the extent of authority to be exercised by the Program Director, particularly with regard to minor program alternations such as necessary changes in an individual patient's or resident's reinforcement schedule.

(7) Approve training programs for staff members in accordance with the provisions of Rule .010 of these rules.

.007. Approval of Existing Behavior Therapy Modification Programs. (a) All Behavior Therapy Modification Programs in operation on the effective date of these rules, except those employing Punishment by Contingent Stimulation may be continued until such time as they have been reviewed and approved by the Facility Committee on Behavior Therapy Modification provided, however, that no such program, unless approved by the Facility Committee, shall be continued beyond one year from the effective date of these rules.

(b) All Behavior Therapy Modification Programs employing Punishment by Contingent Stimulation in operation on the effective date of these rules shall be discontinued by the ninetieth (90th) calendar day thereafter unless such program has been approved by the Facility Committee on Behavior Therapy Modification, the Superintendent and the Departmental Committee on Behavior Therapy Modification.

.008. Conditions for Initiation or Approval of Behavior Therapy Modification Programs. (a) Each such program shall be operated under the direction and supervision of a Program Director approved by the Facility Committee on Behavior Therapy Modification.

(b) All programming employing Behavior Therapy Modification techniques shall be designed for an individual patient or resident or a group of patients or residents based on individual needs.

(c) No Behavior Therapy Modification program shall deprive a patient or resident of a basic human need such as a bed, except as required by the dictates of safety during Seclusion. No Behavior Therapy Modification program shall deprive a patient or resident of a nutritious diet, nor shall it alter the consistency of food texture of regularly prescribed meals.

(d) No Behavior Therapy Modification Program shall employ the use of Restraint or Seclusion except in accordance with the requirements or the exceptions stated in the Rules of the Commissioner of Mental Health and Mental Retardation Affecting Client (Patient) Care, Restraint and Seclusion, 302.04.06.

(e) No Behavior Therapy Modification program may be initiated within a facility until the following criteria have been met:

(1) A written treatment or curriculum description has been developed for each program. Elements to be considered in the written account should include but not be limited to the following information:

(A) Patients or residents to be served in each program and a rationale explaining why a particular technique or procedure is being recommended for a treatment or training program must be specified.

(B) A statement of the behavioral objectives of the program including a clear specification of the conditions under which the program shall be carried out, the behavioral goals to be achieved, and the level of performance required to achieve the behavioral goal. The Behavioral Characteristics Progression Scale or similar instruments may be used to specify behavioral goals.

(C) A staff pattern shall be specifically designed to adequately plan, implement and monitor the program.

(D) The materials and facilities to be used must be identified and described.

(E) A schedule of implementation, duration, and revision must be recorded for each program.

(F) A step-by-step procedure for the Behavior Therapy Modification Program must be devised and disseminated to each staff member involved in the project.

(G) Supervisory relationships and administrative accountability must be documented for each program.

(2) The Facility Committee on Behavior Therapy Modification has reviewed and approved the program.

.009. Special Conditions for Initiation of Approval of Programs Employing Punishment by Contingent Stimulation. (a) All programs employing Punishment by Contingent Stimulation must meet the requirements of Rule .008 of these rules.

(b) No program employing Punishment by Contingent Stimulation may be initiated until at least two of the three following criteria have been met:

(1) The patient or resident exhibits overt self-injurious behavior or is a danger to others.

(2) The patient's or resident's behavioral problems are so severe and their duration is so extensive that other therapeutic approaches are precluded or are inffective

(3) Behavior Therapy Modification techniques and procedures not employing Punishment by Contingent Stimulation have been attempted and have failed to remove the problem behavior or behaviors. Facts concerning dangerous behavior ineffectiveness of other approaches, or failure of other therapy shall be documented in each patient's or resident's record.

(c) No program employing Punishment by Contingent Stimulation may be initiated until the following conditions, in addition to those required in subsection (a) and (b) of this rule, have been met:

(1) A written program description specifying target behaviors, independent variables, dependent variables, mediators and a detailed description of the procedure including but not limited to a description of the materials and facilities to be used is prepared.

(2) A representative sample of baseline data has been reliably collected as a measure of preintervention behavior levels (response rates).

(3) A systematic, objective and reliable method of data collection

which allows a daily evaluation of treatment effects is specified. This data includes who administers aversive stimuli, time and location of administration and a description of antecedent and consequent events.

(4) A program for differentially reinforcing a class of behaviors which are compatible with the undesirable response (responses) is designed and targeted for simultaneous implementation with the program utilizing Punishment by Contingent Stimulation.

(5) A method to provide for the long-range maintenance of treatment effects and the collection of maintenance data is specified when length of stay or follow-up care permits.

(6) All involved staff members have received a step-by-step procedural guide and explanation of the basic learning principles involved.

(7) Identification and training of all program mediators have been documented.

(8) Supervisory relationships and administrative accountability have been documented.

(9) Written Informed Consent as defined in these rules has been obtained from

(A) The patient or resident if he or she is mentally competent to give such consent,

(b) The guardian of the person of any patient or resident who has been adjudicated incompetent by a court of competent jurisdiction, or

(C) The responsible parent of any child under the age of 18 years.

(d) All programs involving Punishment by Contingent Stimulation must identify individual patients or residents and must be reviewed and approved by the Facility Committee, Superintendent, and the Departmental Committee on Behavior Therapy Modification before initiation or approval of the program.

(e) Medical authorization by a Licensed Physician must be placed in the record of each individual patient or resident who is to participate in a program employing Punishment by Contingent Stimulation to assure that no medical contraindications exist.

(f) Documentation must be made in the patient's or resident's record immediately upon the presentation of aversive stimulus. This documentation must include who administered the aversive stimulus and the setting in which it was administered. Indication must also be given as to why aversive stimulus was administered and what the outcome was.

(g) Authorization for time extension of any program involving Punishment by Contingent Stimulation must be approved by the Facility Committee.

(h) Any increase in the intensity of aversive stimuli, unless specified in the original application, must be approved by the Facility Committee, Superintendent, and the Departmental Committee before initiation.

.010. Staff Training in Behavior Therapy Modification. (a) Staff members participating in any Behavior Therapy Modification Program shall have completed training, appropriate to their responsibilities in the program and covering at least:

(1) Basic principles of learning theroy including reward and reinforcement,

(2) The techniques and procedures to be used in the program.

(b) From the effective date of these rules until one year thereafter, training of staff members shall be the responsibility of the Program Director, assisted by facility staff development services, the training curriculum to be approved by the Facility Behavior Therapy Modification Committee.

(c) Within nine months from the effective date of these rules, the Departmental Committee on Behavior Therapy Modification, assisted by representatives of Facility Committees on Behavior Therapy Modification and by facility Coordinators for Staff Development shall develop and approve training objectives and curriculum materials for:

(1) General trining of facility staff in the theory, principles and procedures of Behavior Therapy Modification techniques,

(2) Specific training programs using Punishment by Contingent Stimulation.

(d) Within one year from the effective date of these rules, facility offices for Staff Development, assisted by Program Directors and Facility Behavior Therapy Modification Committees shall provide staff training in accordance with the training objectives and curriculum developed and approved by the Departmental Committee on Behavior Therapy Modification.

(e) After one year from the effective date of these rules, staff members may be approved for participation in Behavior Therapy Training Programs based on any one or combination of the following:

(1) Completion of approved training in Behavior Modification Therapy conducted by the facility.

(2) Completion of documented training of comparable level in another setting subject to approval by the Facility Behavior Therapy Modification Committee and Facility Coordinator for Staff Development.

(3) Passage of performance-based examination and demonstrated competencies coverning the essentials of Behavior Therapy Modification equivalent to the standards established for facility training.

.011. Evaluation of Behavior Therapy Modification Programs. (a) The Facility Behavior Therapy Modification Committee shall develop criteria for evaluation of all Behavior Therapy Modification Programs within the facility and shall evaluate, at least once each year, each program in accordance with the criteria developed.

(b) The Departmental Committee on Bheavior Therapy Modification shall develop criteria for the evaluation of all Behavior Therapy Modification Programs employing Punishment by Contingent Stimulation. Such criteria for evaluation shall include at least the following:

(1) A written report submitted each year from the facility documenting the effectiveness of the program and any untoward side effects.

(2) A site visit conducted each year by the Departmental Committee to the Program.

.012. Exception to these Rules: Behavioral Crisis. The requirements of these rules may be suspended for a period not to exceed fourteen (14) calendar days in the event of a Behavioral Crisis for a patient or resident subject to the following conditions:

(1) The need for an probable effectiveness of the program is confirmed in writing in the clinical record of the patient or resident by a Psychiatrist or a Psychologist.

(2) The program is initiated and is under the direct supervision of a Program Director.

(3) The program has been approved by the Facility Behavior Therapy Modification Director and the Superintendent.

(4) The program for approval by the Facility Committee, and, if appropriate, the Departmental Committee, is sought at the earliest practicable time.

.013. Exception to these Rules: Unavailability of Responsible Party to Give Written Informed Consent. The requirements of Rule .009(c)(9) of these rules to obtain Written Informed Consent may be indefinitely suspended under the following conditions:

(1) The patient or resident himself is not competent to give Written Informed Consent,

(2) No guardian of the person has been established or all efforts to locate the responsible parent of a child under age 18 have failed,

(3) An independent Psychiatrist or Psychologist, who is not a member of the staff of the facility, has provided in writing in the patient's or resident's clinical record confirmation of the need and probable desirable consequences of the program,

(4) The Facility Behavior Therapy Modification Committee has confirmed the need for and the probable desirable consequences of the program,

(5) The Superintendent has approved the program in writing in the patient's or resident's clinical record, and

(6) The program, if it utilizes Punishment by Contingent Stimulation, has been approved by the Departmental Committee.

.014. Distribution. (a) These rules shall be distributed to all members of the Texas Board of Mental Health and Mental Retardation; Assistant Commissioners, Deputy Commissioners, Directors and Section Chiefs of Central Office; Superintendents and Directors of all Department Facilities; and Chairpersons of the Public Responsibility Committee of all Department Facilities.

(b) The Superintendent or Director shall provide a copy of these rules to each of the following staff members:

(1) Chairperson, Facility Committee on Behavior Therapy Modification
(2) Clinical or Medical Director
(3) Chief of Psychology
(4) Chief, or Director of Nursing
(5) Unit Director

(c) A copy of these rules shall be provided upon request to any patient or resident or the attorney for any patient or resident or to any responsible parent or guardian.

.015. Effective Date. These rules concerning Behavior Therapy Modification Programs are effective on December 29, 1975. Upon the effective date of these rules, all other instructions on this subject, written or verbal, are rescinded.

Issued in Austin, Texas, on December 19, 1975.

Kenneth D. Gaver, M.D.
Commissioner
Texas Department of Mental Health and
Mental Retardation